GIRLS' AND WOMEN'S EDUCATION POLICY RESEARCH ACTIVITY

Girls' and Women's Education, Office of Women in Development
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A Longitudinal Study of the Effect of Integrated Literacy and Basic Education Programs on the Participation of Women in Social and Economic Development in Bolivia

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Shirley Burchfield, Ph.D., GWE-PRA Project Director, World Education
Haiyan Hua, Ed.D., GWE-PRA Research Director, Harvard Graduate School of Education
Tania Suxo Iturry, Bolivia Research Coordinator, Education Development Center
Valeria Rocha, Program Associate, World Education

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A more extensive list of those who played a role in carrying out this study is provided in Appendix 1.

LIST OF ACRONYMS

BCSS	Bolivian Centre of Social Studies
CEPROMIN	Centro de Promoción Minera
CERID	Research Centre for Educational Innovation and Development
CPMGA	Centro de Promoción de la Mujer Gregoria Apaza
CRECER	Crédito con Educación Rural
EDC	Education Development Center
FFH	Freedom from Hunger
GDP	Gross Domestic Product
GER	Gross Enrollment Rates
GWE-PRA	Girls' and Women's Education Policy Research Activity
HEAL	Health Education and Adult Literacy
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
INE	Instituto Nacional de Estadística
INGO	International Nongovernmental Organization
IUD	Intrauterine Device
NAEP	National Assessment of Educational Progress
NFE	Nonformal Education
NGO	Nongovernmental Organization
NMIS	Nepal Multiple Indicator Surveillance
REDALF	Red de Alfabetizacion
REFLECT	Regenerated Freirean Literacy through Empowering Community Techniques
SES	Socio-Economic Status
STI	Sexually Transmitted Infections
UNDP	United Nations Development Fund
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNAIDS	Joint United Nations Program on HIV/AIDS
USAID	United States Agency for International Development
VDC	Village Development Committee
WDD	Women's Development Democracy
WHO	World Health Organization

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EXECUTIVE SUMMARY

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Overview of the GWE-PRA Research

The Girls' and Women's Education Policy Research Activity (GWE-PRA), funded by the U.S. Agency for International Development, Office for Women and Development, was a five-country research initiative in Peru, Benin, Bolivia, Honduras, and Nepal. Longitudinal studies were carried out in three countries, Honduras, Bolivia, and Nepal. The study in Bolivia examined women's integrated literacy and basic education programs run by several nongovernmental organizations. It evaluated elements of the programs and assessed their impact on women's personal development (private returns) and ultimately on national development.

The Bolivia longitudinal study assessed the impact of women's integrated literacy and basic education programs in four NGOs (PLAN, Gregoria Apaza, Pro Mujer, CRECER) and one NGO partnership (PLAN/CRECER) on women's development by studying their effects on specific socio-economic indicators. These included: 1) literacy and education; 2) children's education; 3) health and reproductive health; 4) participation in economic activities; 5) household decision making; 6) community participation; and 7) awareness of legal rights. In addition, technical assistance was provided to participating NGOs in the areas of research design, materials development, and monitoring and evaluation.

The GWE-PRA/Bolivia research design for the longitudinal study consisted of both qualitative and quantitative data collection. Quantitative data were collected once a year for three years (from 1998 though 2000) from an experimental group of 717 program participants and a control group of 224 non-participants, located in the departments of La Paz and Cochabamba. Additionally, a sub-sample of 30 women from the experimental group and five focus groups (two from Pro Mujer, one from Gregoria Apaza, one from PLAN/CRECER, and one from PLAN) were interviewed to provide in-depth information about the women, their families, and the communities in which they resided. Inherent in the research design was the assumption that changes in the participants' knowledge, attitudes and practices on our indicators of social and economic development would ultimately result in changes in the larger society. However, the GWE-PRA focused on the immediate impact on women within the three-year period of the study. These data were examined in conjunction with information concerning program elements, such as facilitator characteristics and program length and focus.

It is important to note that none of the participating NGO programs were traditional literacy training programs, but rather socially and economically focused training programs, such as a health and reproductive health program, a micro-credit and microenterprise program, a technical skills program, and so forth. Furthermore, participants in these programs were not "typical" literacy program participants–they began the program with much higher levels of literacy skills than one would find in a traditional literacy program.

General Findings

? The results of this study led to the overall conclusion that women who participated in integrated literacy and basic education programs showed greater progress on a number of *individual* indicators of social and economic development than women who did not participate in these programs. Additionally, when these indicators were analyzed *together*, using an index of social and economic development, **NGO program participants made significantly more progress than non-participants, even when other factors such as location, educational level, household material possessions, marital status, and time were controlled for. Hence, we concluded that funding for these types of programs should be continued.**

? Areas of indicators in which NGOs have made substantial investment of resources (time, program focus, and training) have resulted in significant gains in women's social and economic development. **Therefore, it is essential for Government, donors, and NGOs to prioritize their goals and target resources toward achieving these goals.**

? In examining factors contributing to the 11 percentage point gain in social and economic development, we found that certain areas of indicators were not sufficiently supported, and hence, did not significantly contribute toward development gains. **Priority should be given to selecting areas that deserve greater attention in the next phase of program development. For example, consideration should be en to investing additional resources in areas such as legal rights, decision-making, and children's education.**

? Involvement of in-country researchers, NGO staff, and other stakeholders in every aspect of policy research from initial design to the final analysis is essential to local capacity building, as well as addressing relevant research issues, and producing studies that more likely to be used by policy makers and program planners.

? The use of locally developed materials that are relevant to the local context (such as those developed by the four NGOs) is an important ingredient of effective program delivery.

Composite Measure of Social and Economic Development

To address the main research question as to whether integrated literacy and basic education programs for women contribute to improvements in the personal development of women in the sample, and indirectly, to Bolivia's social and economic development, required not only examining individual indicators but also looking at their collective effect. This necessitated the examination of the combined indicators of social and economic development, taking into account other factors that may have contributed to changes during the period. Hence, a 56-point index of social and economic development consisting of key areas of indicators, such as literacy, education, family and reproductive health, income-earning activity, household decision making, community participation, and legal rights was constructed.

In Year 1, the experimental group was almost 6 points higher on this index than the control group. This gap widened in Year 2, reflecting a larger gain for the experimental group (3.4 points) than for the control group (1.4 points), although both groups made some progress in participation in social and economic development. But in Year 3, progress was slower, with a 1.1 point gain by the control group and a 0.4 point gain by the experimental group. By Year 3, the gap between the experimental and the control group on the index had increased only slightly (from 6 to 7 points).

An additional important question was whether rural and urban location was a significant factor associated with the improvement of women's social and economic development. Over the period, improvement was observed in the social and economic development index in both rural and urban areas. However, rural women had a lower score on the index than urban women in all three years, and they showed less improvement than women in urban areas. The index score for the women in rural areas increased from 22.8 to 26.8 points, a gain of 18%. For the women in urban areas, the index score improved from 33.3 to 36.7 points, a 10% increase. Specifically, women in rural NGOs (PLAN and PLAN/CRECER) had the lowest index scores in Years 1-3. PLAN also had the lowest overall gain score over the period. CRECER showed the highest scores overall, by the third year (2000). It is interesting to note that most of the "gains" for the rural women occurred between Years 2 and 3. But all the "gains" for the urban women occurred between Years 1 and 2. Whether this could be a delayed effect for the rural women is yet to be tested.

Women with the lowest socio-economic status (SES), as measured on a 14-point scale of household belongings, had a larger "gain" on the social and economic development index than women with the highest SES group over three years. For example, experimental group women in the *lowest* SES quartile gained 7.0 points on the 56-point social and economic index and control group women in that quartile gained 5.5 points. By comparison, the social and economic index score of women in the experimental group in the *highest* SES quartile gained only 1.6 points, and the social and economic index score of women in the control group with a high SES actually declined by 1.2 points. The larger gains made over the period by the women in the lowest quartile suggest that the most disadvantaged women were able to "catch up" socially and economically over the period.

The difference between participants and non-participants in the integrated literacy and basic education programs (the experimental and the control group) also demonstrated that integrated literacy and basic education programs helped to improve private returns to women, regardless of their SES levels. Women in the experimental group, irrespective of their level of SES, made greater gains on the social and economic development index than women in the control group.

Additionally, women in the study demonstrated improvement on the social and economic development index score regardless of their educational level. Those with no or lower education made larger gains than women with higher education. **Women with no education may benefit the most from the integrated literacy and basic education programs**. These results suggest that, while the gains for the more educated groups tapered off between Years 2 and 3, the gains for the non-educated women and women with lower levels of education continued to be in evidence. On average, considering all other significant factors, we can expect that a woman who

participates in one of the NGO programs will achieve 10.6 points more on a 56-point social and economic development index scale than a woman who does not participate.

The sections that follow present the results of *individual* indicators of social and economic development examined in this study.

Literacy Skills

Results from the GWE-PRA in Bolivia indicated that across the short span of three years (1998-2000), many positive changes were noted in women's awareness of and behavior in education, health, economic participation, legal right issues, and empowerment. Most women in both the experimental and the control group had basic literacy skills at baseline. About 81% of all women in the sample reported being able to read and write, 79% demonstrated the ability to write their name and 71% could write a complete home address. On average, they could read about 70% of the words on a card containing words from a fifth grade textbook. Women in urban areas performed dramatically better on all literacy measures than women in rural areas.

While women in both the experimental and the control group reported improvements in their literacy skills, during the three-year period, women in the experimental group showed higher gains on reading measures than the control group. However, their gains on writing skills were lower than those of the control group.

Children's Education

No substantial changes were found with regard to the participation of respondents' children in formal education during the period either in the experimental or the control group. However, about 56% of the children of women in the experimental group were already attending school in the baseline year (Year 1). Findings suggest that NGO participation had a positive impact on mothers' involvement in their children's secondary-level homework. Both the educational level and socio-economic status (SES) of mothers also affected their children's education. Mothers who had a secondary or higher level of education were more involved in their children's education than mothers with no education. However, few women in either the experimental or the control group read to their young children (under age 5) either at the beginning of the study or in Year 3.

We concluded that to have a significant impact on children's education, curriculum components that allow women to practice reading and writing and thus lead to improvement in those skills are needed. This, in turn, would likely increase women's confidence in their ability to provide assistance to their children in school, particularly those in higher grades. Additionally, for NGO programs to have a significant impact on children's education, it is necessary to include specific activities that emphasize the importance of reading to children at an early age and reinforce the value of educating children, particularly girls.

Family and Reproductive Health

Improvements in health-related knowledge and behavior were greater for women who attended integrated literacy and basic education programs than for women who did not receive any literacy and basic education or health-related training. For example, women in the experimental group showed more positive changes than women in the control group in their practices related to seeking medical help for themselves and for a sick child. These women were more likely to adopt preventive health measures discussed in the NGOs' health-related programs, such as immunization against common childhood illnesses. Additionally, women in the experimental group showed a higher overall gain in knowledge of family-planning methods and a larger increase in interest in using family-planning methods than women in the control group. However, it is important to note that even though the overall outcomes related to reproductive health were promising after three years, and the number of women reporting that their use of family-planning methods increased over the period, three years is not sufficient to confirm significant changes in actual use of family-planning methods or fertility rate.

Women in both the experimental and the control group showed an increase in knowledge of sexually transmitted infections (STIs) over the period. However, a gap continued to exist between the knowledge level of urban and rural women. While most women in urban areas had heard about STIs, a much smaller percentage of women in rural areas had acquired that kind of information. For example, at the beginning of the study in Year 1, approximately 52.1%, 61.1% and 90.2% of women in urban areas had heard of gonorrhea, syphilis, and HIV/AIDS, respectively, compared to 28.1%, 38.1%, and 46.1% of women in rural areas who had heard of these infections. By Year 3, approximately 66.5% of women in urban areas had heard of gonorrhea, 71.6% of syphilis and 95.8% of HIV/AIDs. In rural areas, however, the percentages of women who had heard of these infections were 19.3%, 57.1% and 46.1%, respectively, indicating that some of the women in rural areas had forgotten some of what they had learned earlier.

It is important to note that although women's knowledge and practices in health care improved during the period, specific attention needs to be paid to improving medical health care services and facilities. To gain women's trust in medical treatment, policy makers and medical personnel in Bolivia will have to address women's growing concerns about the quality of the medical services.

Participation in Income-Earning Activities

The overall number of women who participated in income-earning activities increased from Year 1 to Year 3. Weekly income decreased during the period from 158.9 Bolivianos (U.S. $26.68 at the 1998 exchange rate) to 125.2 (U.S. $20.39 at the 2000 exchange rate), while the average number of hours that women worked increased from 35.3 to 38.5. It is likely that the increased percentage of women participating in income-earning activities over three years can be attributed to the increase in the country's development programs, NGO training, and microcredit loan projects. The increase in the number of hours and the decrease in weekly income may reflect the national economic crisis, which affected the informal sector more in urban areas than in rural areas. Increased competition in the labor market might have also led to the increased working hours and income decline for women.

Other factors that affected women's income-earning activity participation and income levels were education level, age, and locality. As expected, women with higher levels of education earned more and, as a result, were less vulnerable to the economic crisis than women with lower education. Women in the 15-25 age cohort, the most dynamic and productive years, had the highest positive change in income-earning participation, and women in the older cohorts (36 to 45) worked the greatest number of hours. Furthermore, rural women showed an overall higher participation in income-earning activities than urban women, before taking into account other factors, such as participants' educational level, marital status, material possessions, and time.

When several income-earning variables were combined together into a composite variable that included participation in income-earning activities, plans for expansion, and external loans for small income-earning activities, it was found that women from urban areas had different levels of involvement than those women from rural areas. These results may indicate that, because of their greater access to external loans and possibilities for expanding professionally women in urban areas have greater opportunities for economic participation.

Findings showed that these NGO programs have made a difference in the extent to which women participated in income-earning, even after we controlled for factors such as education level, marital status, locality, and other unknown factors (measured by the time variable).

Household Decision Making, Community Participation and Awareness of Legal Rights

Over the period, women's involvement in important household decisions related to education and health-related spending, use of family-planning methods, spending of self-earned income, and denunciation of domestic violence increased. The proportion of women participating in household decisions concerning educational spending, health-related spending, and the use of self-earned income increased in both the experimental and the control group over the three-year period.

Increased participation in the labor market may have empowered women to make more household decisions related to spending and overall community participation over the period. However, while a large proportion of women in the study were involved in household decisions about education and health spending, family-planning methods, and spending their own money, only a small percentage of women were willing to stand up against domestic violence, even though it is very prevalent in Bolivia. For example, in Year 3, about 86.1% of women in the experimental group and 74.1% of women in the control group participated in decisions about spending on their children's education, 86.1% and 76.1% of the experimental group and control group, respectively were involved in decisions about health-related decisions, and 78.51% and 72.3% of the experimental group and control group participated in decisions about income expenditures. On the other hand, only 17.5% of women in the experimental group and 10.3% in the control group said that they took part in decisions against the use of domestic violence.

The number of women in both the experimental and the control group who were participating in community activities increased over the period from 48.0% to 58.7% for the experimental group and from 33.5% to 43.3% for the control group. However, women's ability to correctly recall

information concerning their legal rights declined slightly during the period. For example, in both the experimental and the control group, women's recollection of information concerning laws to protect them against discrimination, to provide health services for their children, and to have their needs incorporated into municipal plans declined over the period. However, women's knowledge of their legal rights regarding domestic violence increased from 78.0% to 80.2% in the experimental group but declined from 74.0% to 67.0% in the control group.

These results were most likely related to the curriculum content of the NGO programs. Legal awareness was not part of all of the NGO programs: only Gregoria Apaza had a strong legal knowledge component in their program. Additionally, women's responses were specific to questions asked and may not be an accurate reflection of women's knowledge of their legal rights. Findings may also have been affected by the timing of data collection. If public information was being disseminated on these issues through public information campaigns in Year 1 (but not in Year 3), the information would have been fresh in their minds. By Year 3, some may have forgotten about these issues.

1. INTRODUCTION

1.1 The Goals and Purposes of the Girls' and Women's Education (GWE) Initiative and the GWE Policy Research Activity

The relationship between formal basic education and long-term economic growth is well documented, with numerous studies reporting a strong correlation between the education of girls and a country's level of economic development (Summers, 1994; King and Hill, 1993; King, 1990; Subbarao and Ramey, 1993; Floro and Wolf, 1990; Psacharopoulos, 1989). However, studies showing the specific contribution of women's integrated literacy[1] and basic education programs are lacking. While investments in literacy training over the past 30 years have increased, few studies have been conducted to assess the effects of these programs on the participation of women in social and economic development or to identify and evaluate what kinds of specific integrated literacy and basic education interventions are cost-effective and work best for women.

Prompted by strong evidence of the impact of girls' primary school completion on developing countries' long-term social and economic development, USAID launched the Girls' and Women's Education Initiative in 1995 to spur rapid further advances in girls' and women's education. The primary objective of the Girls' and Women's Education Policy Research Activity (GWE-PRA) in Bolivia, Honduras and Nepal, which was implemented by World Education in collaboration with Harvard University Graduate School of Education and the Education Development Center, was to determine whether women's integrated literacy and basic education programs advance development. This was accomplished through analytical studies of the impact of women's integrated literacy and basic education programs; the identification of cost-effective elements of those programs; and the sharing of research findings with a broad stakeholder audience, including key decision-makers. Findings from this research will help planners at the national level and in international assistance agencies make more informed decisions about the allocation of program resources. In addition, findings from the research may help the private and public sectors develop more appropriate programs tailored to women's development needs.

GWE-PRA studies in Peru and Benin focused on specific constraints to girls' education to derive recommendations for policy reforms to overcome these constraints. The specific purpose of the studies in Bolivia, Honduras, and Nepal was to determine the impact of integrated literacy and basic education programs on women's participation in these countries' development. The research examined the programs' effects on indicators of social and economic development, such as women's economic participation, family and reproductive health practices, family nutrition, agricultural practices, community involvement, and civic participation. Although activities in each of these countries had different modes of delivery and different target audiences and were at different stages of development, they shared a commonality of purpose. All programs in the three

[1] The use of the term "integrated" implies that basic reading, writing, and numeracy skills are not taught in isolation but are a part of an integrated approach that incorporates functional information on topics such as health, savings and credit and livelihoods development, agriculture, family planning and so forth with basic literacy skills. An integrated literacy program can be defined as one that "attempts to provide a comprehensive education over a longer time frame than a program or campaign" (Comings, et al., 1995). An integrated literacy program offers literacy training and also provides the participants with skills and knowledge in one or more areas.

countries where the longitudinal studies were conducted aimed at increasing the literacy skills of women through nonformal basic education.

The results of the GWE-PRA research offers important information on the effects of women's basic education programs for those involved in decision making about future strategies and the use of resources to promote educational opportunities for girls and women. To have lasting impact, research on girls' and women's education must be linked to concrete actions. These actions must take place at several levels, involve a wide range of stakeholders and be implemented in tandem with national strategies for girls' and women's education. Effecting change is a long-term and incremental process, necessitating innovative approaches that provide stakeholders a genuine role in the process and give them a sense of ownership of the solutions.

1.2 Girls' and Women's Education Policy Research Activity in Bolivia

The GWE-PRA in Bolivia investigated the impact of women's integrated literacy and basic education programs on women's participation in the country's development by examining measures of socio-economic status, as well as indicators of social and economic development, including: 1) literacy and education; 2) children's education; 3) health and reproductive health; 4) participation in economic activities; 5) household decision making; 6) community participation; and 7) awareness of legal rights. The research presents cross-sectional comparative analyses of these activities in the baseline year and measures changes in the indicators over a period of three years.[2]

The USAID/Bolivia Mission believes that the GWE Policy Research Activity can contribute to the improvement of women's health and economic opportunities by accomplishing three objectives:

1. to provide technical assistance to NGOs in materials development, literacy systems design, facilitator training, formative evaluation, and program documentation;
2. to carry out longitudinal research to determine the impact of women's integrated literacy and basic education programs on women's participation in Bolivia's social and economic development; and
3. to identify the elements of integrated literacy and basic education programs that are cost-effective.

This report provides the following information: 1) an overview of the **global literature** on integrated literacy and basic adult education and the role of women in socio-economic development; 2) a description of the **Bolivia context** with the necessary information about NGOs that have participated in this investigation; 3) a description of the **technical assistance provided for materials developmen**t, 4) an overall explanation of the research **methodology of the longitudinal study** (approach to the analysis, the research design and framework, the sample, data collection, and analysis techniques); 5) a description of the **characteristics of women in the sample**; 6) a discussion of the **research findings**; and 7) **conclusions and implications for policy**.

[2] Data collection took place at the end of each year from 1998 though 2000. The actual length of time between the administration of the baseline survey to the administration of the third and final survey was 24 months.

This portion of the report describing longitudinal research will attempt to answer two broad research questions:

1. To what extent did the personal development (private returns)[3] to women participating in integrated literacy and basic education programs change over a three-year period (1998-2000) in comparison to women who did not participate in these programs?

2. What elements of the integrated literacy and basic education programs contributed to these changes, taking into account other important factors?

To address the above questions, the research design combined quantitative and qualitative methods. Survey data were collected once a year for three years from an experimental and a control group located in the departments of La Paz and Cochabamba, which make up about 60% of the population in Bolivia. The final experimental group was composed of 717 women participating in programs operated by four NGOs and one NGO partnership. The control group comprised approximately 224 women who were not participating in the programs. The same women in each group were interviewed each year for three years. In the qualitative component, a sub-sample of 30 women from the experimental group and five focus groups (two from Pro Mujer, one from Gregoria Apaza, one from PLAN/CRECER and one from PLAN) were interviewed to provide in-depth information about the women, their families, and the communities in which they resided. The selection of women for the in-depth interviews was based upon the findings from the survey data. They represented the "extreme" cases–women who were either "very high" or "very low" on the key indicators. The qualitative component was designed to supplement empirical findings by helping to explain why some women had outcomes that were above or below expectations.

[3] As a result of discussions with USAID/Office of Women and Development staff over the duration of the study, we have modified our original wording of the research questions to use the terminology "private returns" rather than "women's social and economic development" when referring to the impact on the women in the sample.

2. GLOBAL LITERATURE

The sections that follow highlight recent literature in Bolivia and other countries on some of the key factors that are known to contribute to a country's social and economic development. This discussion reviews recent studies on the indicators examined in the GWE-PRA in Bolivia and highlights key research findings on the impact of women's participation in integrated literacy and basic education courses on their lives and on their country's development. The areas discussed include economic participation activities, community and political participation, awareness of legal rights, health, and children's education.

2.1 Key Factors Associated with Social and Economic Development

2.1.1 Income-Earning Activities

Women contribute to economic growth in two key ways. First, they participate in the work force in activities that can be conventionally measured. Second, they contribute through unpaid work such as subsistence production, volunteer work in the community, and domestic activities. However, work in the informal sector is rarely measured or taken into account in development plans. Market wage calculations do not take into consideration the social benefits of educating and hiring women (World Bank, 1995). Yet, it is widely recognized that in rural areas women play significant economic roles, and in some countries (particularly those in war-torn areas or countries with high migration rates) women often have the primary responsibility for the support of their families (Inter-American Development Bank, 1995).

Because of the large number of women participating in the informal sector in developing countries, interpreting trends in women's labor force participation is extremely difficult, especially since many of informal sector activities overlap with subsistence-oriented household activities or community-based activities (World Bank, 1995). Throughout the world, women earn substantially less from labor than men. In a study in six developing countries (Brazil, Colombia, Cote d'Ivoire, Indonesia, Philippines, and Thailand), it was found that women's wages relative to men's increased in recent years by about 1% per year (Tzannatos, 1995 in World Bank, 1995). However, it is estimated that on average women make 30% to 40 % less than men (World Bank, 1995). Such disparities are closely associated with differences in educational levels and work experience. A recent study in Nigeria found that literate women had an average monthly income more than three times higher than non-literate women. This difference was due to the fact that most literate women worked in the formal labor sector (Egbo, 2000). Discriminatory institutional practices and norms that influence household distribution of resources further perpetuate income inequities. The decision for a woman to stay out of the work force may not be the optimum use of household resources and may not necessarily reflect a woman's own choice.

A cross-country study in the cities of Lusaka, Zambia; Guayaquil, Ecuador; Metro Manila, Philippines; and Budapest, Hungary found that during times of economic reform, women rely more on the informal sector than men do. Women are more restricted in the types of activities they pursue, and their competitiveness is limited due to limited mobility and lack of financial and public

services. They also tend to specialize in non-traded goods and services that produce relatively low average returns to labor. Women's earnings relative to men's in those countries ranged from 46% to 68% (Moser, 1994 in World Bank, 1995).

A study on women's employment in Bolivia notes that working for cash is more likely to translate into autonomy and empowerment for women than not working or not being paid for working (Kishor, 1996). This study also notes that demographers and development theorists underscore the importance of women's labor force participation for the independence and status of women, for lowering unwanted fertility, and for the achievement of development goals. In short, participation in paid employment has several positive externalities that expand beyond an increase in individual income.

An exploration of the determinants of female labor force participation in Bolivia concluded that education is one of the most important predictors of female labor force participation in Bolivia. Psacharopoulos and Tzannatos (1993) also concluded that education is the most important determinant of female labor force participation in Latin America, confirming this pattern on a regional level. At the same time, these studies show that, on average, women are paid much less than men given equivalent educational attainment. This indicates that social, governmental, and legal efforts must be strengthened to eliminate gender discrimination and improve women's position within the labor market.

Women's inferior position in the labor market is a reflection of their position in society. One study on women's work in Bolivia explains that civil society has an important restrictive influence on female labor force participation. According to Kishor (1992), "patriarchal norms tend to encourage economic dependence of women on men while largely recommending domestic roles for women" (1996, p. 3). Legal statutes that limit women's participation formally support this notion. For example, women are not allowed to do work at night, cannot constitute more than 45% of the wage/salary earners in a given workplace and are banned from work that is considered dangerous or unhealthy.

2.1.2 Community Participation and Legal Rights

Gender roles have traditionally ascribed less political involvement to women than to men in Bolivia. However, this is changing rapidly. There are several active women's groups across Bolivia, and a woman, Lydia Gueiler Tejada, was elected president for a short period of time during the 1980s before a military coup d'état.

While the Bolivian constitution provides a legal framework for the full participation of women in democracy, various obstacles exist that prevent women from exercising these rights. Among these impediments, women's lack of awareness of their legal rights is at the forefront. Another factor is the absence of specialized institutions that assist women in their search for legal assistance. Data from the Brigade for Family Protection indicates that in La Paz, 80% of the reported cases of domestic violence were against women. Among the victims, 46% had not completed any formal level of education ("Informe del Comite," 2000). Furthermore, tradition dictates that women's primary responsibilities rest in the domestic, not the political arena.

Currently, women represent less than 11% of the members of Parliament ("Informe del Comite," 2000). Education may play an important role in changing these patterns by making women more aware of their legal rights and possibilities of political participation and by enabling them to seek legal action if their rights are violated. Other studies in Latin America have concluded that women's participation in civil society is empowering on a personal and community level (Stromquist, 1997; Rowlands, 1997; Levy 1988). Female participation in civil society promotes the goals of socio-economic development because women, more often than men, demand social development programs from which they and their children will benefit. When women lobby for a cause, it is likely to be one that is also a development goal, such as better schools, safe drinking water, or more health clinics.

Women gain self-confidence from their community participation and political involvement. However, illiteracy is a serious obstacle that prevents women from becoming more involved in community activities. Therefore, educational programs that help women learn to read may also help them become more politically active. Further research is required to explore this relationship.

2.1.3 Health

Evidence from around the world demonstrates that women in developing countries are often marginalized with regard to family health needs. Santow (1995, p.154) wrote that modern health care in developing countries is often allocated "along the lines of sex, age and familial role." Consequently, women are less likely than other family members to be given proper medical care in the event of illness. In addition, the health information environment of women living under poverty presents several barriers to them: less access to knowledge about diseases and preventive care; belief in a fatalistic predisposition beyond one's control; lack of knowledge of where to go or what kind of health care services are available; and finally, belief in folk and herbal medicine (Freimuth, 1989 in Pfizer, 1998). Women from poorer socio-economic backgrounds and with lower levels of education will also tend to know less about reproductive health and the potential to lower fertility rates.

There is a strong relationship between improvement in literacy skills and better health. It has been suggested that improving reading skills is a way to improve a nation's health (Weiss and Coyne, 1997). Literacy and language skills lead to greater utilization of health services. Women's schooling is a predictor of their reduced fertility (LeVine, LeVine, and Schnell, 2001; Thomas, 1999) and better child health (Glewwe, 1999). Egbo (2000) found that 67% of literate women she interviewed in Nigeria reported having used family planning methods at some point. In contrast, only 11% of illiterate women said they had used some family-planning method. The same study found that the average number of children was 6.28 for illiterate women and 3.1 for literate women.

Research has demonstrated that nonformal education and literacy courses can have an impact on reproductive health. In Tanzania, participants in adult education programs were found to know more about family planning and to hold more positive attitudes toward family-planning methods and use them more frequently than their peers who had not participated in classes (Carr-Hill, Kweka, Rusimbi, and Chengelele, 1991). In Nepal, Burchfield (1997) found that women who attended literacy classes had greater control over decisions regarding family size and child spacing than women who did not attend classes. Several studies in Latin America illustrate that women

with more education are more likely to use family-planning methods and to have fewer children. CEDPA (1995) reported that literacy course participants were more likely to discuss family planning with their spouses, to utilize contraceptives, and to participate in decisions concerning the desired number of children than other women who did not attend literacy class. Finally, research suggests that integrated programs that combine literacy instruction with a health curriculum have a greater impact on women's health practices than literacy courses without the specific health component (Smith, 1997).

Women are reported throughout Latin America, including Bolivia, to desire fertility rates that are significantly lower than their actual fertility rates (Edwards, 1996). This implies a lack of availability and use of family-planning methods. Women's level of education is an important predictor of the use of family-planning methods. Several studies have concluded that education has the highest impact on fertility in Latin America, where, on average, women with no schooling have six to seven children compared with two to three children for the most highly educated women (Edwards, 1996; Martín and Juárez, 1995). As mentioned above, differences between wanted and unwanted fertility are greatest among uneducated women. In Bolivia, the level of use of family-planning methods of women with one to three years of schooling is twice that of women with no education (Edwards, 1996).

Only 48% of currently married women in Bolivia use any family-planning method, and only 25% use a modern method (pill, IUD, injections, implants, barrier methods, and sterilization) (Instituto Nacional de Estadística y Macro Internacional, 1998). One study has concluded that the rhythm method accounts for half of all birth control methods used in Bolivia (Remez, 1991). It is thus not surprising that the wanted fertility rate, 2.7 births per woman, is significantly lower than the actual total fertility rate of 4.2 births per women. Fertility rates are much higher in rural than urban areas, 6.4 and 3.3, respectively (Instituto Nacional de Estadística y Macro Internacional, 1998).

Indigenous women present cultural and linguistic challenges regarding family planning that are difficult to address. A study on family planning among indigenous populations in Latin America suggests that these challenges include poverty, rural residence, low educational levels, and cultural beliefs (Terborgh, et al., 1995). Since indigenous groups are disproportionately poor and uneducated, these factors undoubtedly contribute to the important gap between indigenous and non-indigenous women in knowledge about modern contraceptives. In Bolivia, 89% of non-indigenous women studied knew of at least one family-planning method, compared with 45% of indigenous women. Social disapproval is another contributing factor. The Ecumenical Development Foundation (FEPADE), a Bolivian NGO that works with Quechuan women, reports widespread concern among women about the use of family planning in that they will be criticized and ostracized when neighbors realize that they are not getting pregnant with the accustomed regularity (Terborgh, et al., 1995).

Women's literacy is the key to children's health and achievement. Therefore, socio-economic development programs must target women and girls in their efforts to increase literacy levels among them. A study carried out in Bolivia by Remez (1990) found that nearly half of all deaths occur among children under the age of five, a proportion that more closely resembles that of Africa than Latin America. This study concluded that the vast majority (87%) of these deaths were fully preventable and technically treatable (Remez, 1990). A similar study in Bolivia concluded that the

"role that mothers play in maintaining their children's health is key to child survival" (Bender, Madonna and Rivera, 1993). A UNICEF study (1994) further supports these findings, highlighting that the infant and under-five mortality rates for women with no education are 181 and 124 per 1,000, respectively, compared with 61 and 46 per 1,000 respectively for women who have nine or more years of schooling. Clearly, increased female education has important implications for decreasing infant and child mortality rates. Basic literacy and adult education programs can have a significant impact on women's and children's health. According to the International Literacy Institute (1999), the basic education of adult women in the Seti River region in Nepal helped many women to directly improve their everyday lives by teaching them how to prepare rehydration solutions for sick children and to cook food suitable for children. The project emphasized literacy skills in the framework of real world skills primarily focused on health and hygiene.

2.1.4 Children's and Women's Education

There are approximately 950 million illiterates throughout the world (UNESCO, 1997). While it is estimated that overall female literacy has not increased in the last two decades, female illiteracy remains serious. In 1995, the estimated female illiteracy rates in four Asian countries were over 60%: Nepal (86%), Pakistan (75%), Bangladesh (74%) and India (62%). The estimated rates in several African countries were similar: Burkina Faso (90%), Sudan (89%), Mali (82%) and Egypt (70%). In 14 countries in Latin America, illiteracy rates are 15% or more. While the illiteracy rates for men and women are about the same in most Latin American countries, differences of four points or more still exist in a third of the countries. In Bolivia and Peru, the difference is as high as 20% (IDB, 1995).

High rates of female illiteracy have severe consequences for women, their families, and their communities. Many researchers have noted a correlation between low rates of literacy and other indicators of underdevelopment, such as poverty, illness, malnutrition, high infant mortality, and unemployment (Malmquist, 1992; Psacharopoulos, 1995). Low levels of educational attainment and poor nutrition exacerbate poor living conditions and diminish an individual's ability to work productively (World Bank, 1995; Subbarao and Raney, 1993; Summers, 1994).

Moreover, findings from studies carried out in a number of developing countries suggest that "educated women are more likely to stand up for themselves, participate in the labor force, and seek health care for themselves and their children" (Acharya, 1997). The Plan of Action adopted at the Jomtien Conference on Education for All in 1990 signaled the need to address women's social and economic needs through basic education. The Program of Action adopted at the 1994 International Conference on Population and Development in Cairo recognized the importance of providing women with educational opportunities in declaring "education as a key factor in women's empowerment," and proclaimed the eradication of illiteracy as "one of the prerequisites for human development" (International Conference on Population and Development, 1994, p. 51). Similar statements ensued at the 1995 Beijing Conference on Women and at the 2000 World Education Forum and NGO Consultation in Dakar Senegal. The Dakar Framework for Action (2000), stated its commitment in "achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults" (World Education Forum, 2000, p. 2).

The increased knowledge, skills, attitudes, and self-confidence that come with acquisition of literacy skills have been demonstrated to help women in many ways. They more effectively pursue income-generating activities (World Bank, 1995) and become more active in community groups and organizations (Archer and Cottingham, 1996). Additionally, literate adults have a better understanding of the legal system so that they are able to protect themselves from abuse and exploitation (Dhakal and Sheikh, 1997; Lind, 1995); they more effectively pursue their individual and family health needs and provide better support for their children's schooling (Burchfield, 1997; McNelly and Dunford, 1996; Sandiford, Cassel, Montenegro, and Sanchez, 1995; World Bank, 1995; Smith, Comings and Shrestha, 1995; Griffiths 1992).

Substantial evidence exists that one of the most important factors influencing children's performance and persistence in school is the mother's level of education. In Uganda, government primary schools in communities participating in the REFLECT adult education program had enrollments of 22%, compared with 4% in schools where REFLECT programs did not exist (Archer and Cottingham, 1996). In Nigeria, both literate and non-literate women valued their children's education highly. However, when asked about what criteria they would use to determine which of their children would continue their education if they faced financial difficulty, the majority in the literate group (83%) reported that academic skills rather than gender would be the deciding factor. A much smaller percentage of illiterate women (61%) said academic ability would be a deciding factor (Egbo, 2000).

Studies by Sticht and McDonald (1990) indicated that children of mothers with high levels of education stay in school longer than children of mothers with low levels of education. These authors cite evidence that more highly educated mothers have greater success in providing their children with cognitive and language skills that contribute to early success in school.

In the United States, the National Assessment of Educational Progress (NAEP) data indicate a high correlation between parents' education (particularly that of the mother) and their children's educational attainment. An analysis of the performance of children and young adults (nine to twenty-five years of age) and across ethnic groups on various literacy tasks confirmed the importance of the mother's educational levels (Sticht, 1988).

Additionally, data from the 1990 NAEP reading assessments revealed that average proficiency among fourth graders was lower for those students who reported that their mothers had not completed high school. However, some researchers caution against oversimplifying this relationship (Chall and Snow, 1982). Auerbach (1989), for example, suggests that educationally disadvantaged parents and children are a learning unit and that a two-way support system (as opposed to simply parent-to-child literacy learning) characterized the literacy interactions of many low-income families with low literacy levels.

A study in Nepal found that children who do not receive help at home with their studies are more likely to repeat a grade or drop out of school (Nepal Multiple Indicator Surveillance [NMIS], 1996). This same study reported teachers' views about how to lower class repetition and dropout rates. The two most common suggestions were to educate the parents through nonformal education and to get parents to help their children study at home (the latter being influenced by the former). Furthermore, study results suggest that "literacy programs (and other developmental programs)

aimed at modifying the attitude of rural adults would have a salutary effect on rural children's participation in education" (Research Centre for Educational Innovation and Development [CERID], 1984, p 48). The NMIS study also found that school dropout and class repetition rates were negatively correlated with the amount of help a child receives at home on his/her studies. However, this study did not examine whether or not those students whose parents were literate were receiving more help at home. Previous studies, on the other hand, have reported that the average educational status of the adults in the family is significantly correlated with the child's participation in school (CERID, 1984).

A retrospective study conducted by Save the Children/US found that while both literate (participants in Save the Children/US' literacy program) and illiterate women valued their children's education, literate women reported more involvement in their children's school activities, including discussions about school progress with children and meeting with children's teachers (Save the Children/US, 1997). A study carried out in Nepal by Burchfield (1997) examined women's literacy programs and their impacts in Nepal. Women who attended nonformal literacy classes (basic and post-literacy) were compared with women who did not attend literacy classes and had no formal schooling. The study employed the following measures to assess the effects of literacy courses on children's schooling: 1) the percentage of participants with children enrolled in school before and after the literacy course; 2) the proportion of women who talked to their children about their progress in school; and 3) the proportion of women who made sure their children attended school. On all three measures, women who had participated in literacy programs reported positive changes (increases) in comparison to the women who had not participated in literacy classes.

3. THE BOLIVIAN CONTEXT

3.1 Geography, Population and Socio-Economic Characteristics

Bolivia is in the heart of South America. It is a landlocked country that shares borders with five other South American countries: Brazil to the north and east, Paraguay to the southeast, Argentina to the south, Chile to the southwest, and Peru to the northwest (see Figure 3-1). It has an area of 1,098,581 Km² and it is divided into three distinct geographic zones: the mountains and Altiplano in the west, the semitropical Yungas and temperate valleys of the eastern mountain slopes, and the tropical lowlands or plains (llanos) of the eastern lowlands, or Oriente. The Andes run in two great parallel ranges or cordilleras. The western range (Cordillera Occidental) runs along the Peruvian and Chilean borders. The eastern range (Cordillera Oriental) is a broad and towering system of mountains stretching from Peru to Argentina. Between the two ranges lies the Altiplano, a lofty plateau 805 kilometers long and 129 kilometers. The total population of Bolivia is approximately 8,328,000[4] with an estimated growth rate of 2.4% per year (Instituto Nacional de Estadística [INE], 2000). The country's distinctive topography and ecology have heavily influenced settlement patterns. Almost half of the population (43%) lives on the Altiplano Plateau, which contains Oruro, Potosí and La Paz. At an altitude of 11,910 feet (3,630m), La Paz is the highest administrative capital in the world. The area around Lake Titicaca and the valleys of Cochabamba, Sucre, and Tarija, have also supported large populations because of their mild climate and fertile soil. The Oriente, a lowland region ranging from forests to grasslands, has a smaller and more scattered population, with the exception of a concentration near Santa Cruz. Fifty-eight percent of the population in Bolivia lives in urban areas, particularly in cities of La Paz, Cochabamba and Santa Cruz.

Agriculture accounts for roughly 22% of Bolivia's GDP. The amount of land cultivated by modern farming techniques is increasing rapidly in the Santa Cruz area, where weather allows for two crops a year and soybeans are the major cash crop. Industry, which includes manufacturing and processing of minerals and hydrocarbons accounts for another 15.3% of GDP. Services represent 62.7% of GDP (World Bank, 2000).

Bolivia is a multi-cultural, multi-ethnic, and multi-linguistic country, in which Aymara and Quechua are the primary indigenous groups and languages. However, there are approximately 32 different cultures and languages in the country. According to a 1992 linguistic census, 56.2% of the population speaks an indigenous language, 45% of the population older than six speaks an indigenous language and Spanish, and 42% of the population speaks only Spanish (Albo, 1995).

[4] July, 1998 estimates based on 1992 population census.

Figure 3-1: Map of Bolivia

Since 1985, the government of Bolivia has been implementing economic reforms based on a market-oriented economy, privatizing the public sector and reforming the financial system. The economic restructuring progress has increased Bolivia's trade with neighboring countries and its market-oriented policies have amplified private investments by 25% in 1996. Public expenditures in the social sector have increased by 30% in recent years, but still remain low (Unidad de Análisis de Política Económica [UDAPE], 2001). Despite the implementation of new monetary policies, the

domestic economy and real economic growth have been slow. Economic growth has remained steady at about 4% a year (1.5% a year in per capita terms) over the 1988-1997 period (UDAPE, 1998-2000). In 1997, Bolivia felt the effects of the international financial crisis and the country's economic growth rate fell from 4.75% in 1998 to 2.5% in 1999 (World Bank, 2000). This decline in economic growth was in part due to tight government budget policies, which limited needed appropriations for anti-poverty programs, and the fallout from the Asian financial crisis.

Currently, Bolivian society has been facing high unemployment rates, stagnating wage levels in real terms and deteriorating labor rights. The national unemployment rate in 2000 was 4.76%. However, urban centers have a much higher unemployment rate (7.40%) than rural areas (0.93%). Unemployment among women is also higher than among men (5.82% and 3.91%, respectively) (INE, 1999, 2000). One of the reasons for the increase in unemployment rate was a 2.1% reduction of jobs in the private sector in 1999. The largest increases in unemployment were registered in construction (10%), commerce (6%), and transportation (4%).

Unemployment was accompanied by reduction in average income. It is estimated that during the first quarter of 2001, salaries increased only two percentage points. Workers from timber products, paper and press factories had the largest salary increase and workers from the chemical products industry, plastics and other non-metallic mineral products had the largest decrease (4.7%). During the first six-months of 2000, salaries dropped 0.26% in the formal sectors of the economy. The main drops were registered in the financial services sector (4%), restaurants (3%) and social and health services (5%). In 1999, 37% of Bolivians had incomes under the poverty line.

Although capitalization[5] has generated important investment commitments in the last fifteen years, it has not alleviated poverty. Bolivia remains one of the poorest countries in the Western Hemisphere. In 2000, it ranked 114th on the UNDP Human Development Index, one of the lowest-ranking countries in Latin America. Almost all social indicators reveal that Bolivia is lacking in the provision of basic services, including health and education. The GDP per capita is roughly US$ 1,073 (1999), which is not strikingly low. However, as in most Latin American countries, wealth is distributed unevenly. The poorest 20% of the population earn only about $703 per year, and the richest 20% earn $6,049, close to ten times that amount (United Nations Development Programme [UNDP], 1998).

In rural areas, poverty rates reach 80%, with 60% of the population living under extreme poverty conditions (Ministerio de Hacienda, 2001). The incidence of poverty among individuals who speak at least one indigenous language is far higher than for monolingual Spanish speakers. One study concluded that while the overall urban poverty rate in Bolivia is 52.6%, the incidence of poverty among indigenous people was more than 15 percentage points higher than their non-indigenous counterparts (Wood and Patrinos, 1996). Demographic and health surveys show great disparities between indigenous and non-indigenous populations as well. Infant mortality and child mortality rates are twice as high among indigenous people as among the non-indigenous population. A significant gap in earnings exists between indigenous and non-indigenous groups, with the non-

[5] Capitalization is privatization with the added distinguishing feature that the sale proceeds stay with the company to finance future investment. In the case of Bolivia, the government share of the new company would be distributed to the Bolivian people (Ewing and Goldmark, 1994).

indigenous groups earning 1.6 times more than the indigenous groups (Psacharopoulos, 1993). Similarly, levels of education are significantly lower for indigenous groups, particularly women (Terborgh, et al., 1995).

Health conditions and services in Bolivia are inadequate. One-third of the Bolivian population does not have access to health services, and 42% has no access to sanitary facilities. Roughly three-fifths of the population is estimated to have access to safe drinking water, which may in part account for the high levels of child mortality. Both infant mortality and under-five mortality rates are high in Bolivia, with 71 and 102 deaths per 1,000 live births respectively. Of all the deaths that occur in Bolivia, nearly half are among children under the age of five (UNICEF, 1994). Diarrheal illness is a serious threat to the lives of Bolivian children and accounts for more than one-third of all deaths in children under the age of five.

Table 3-1 highlights key indicators of socio-economic development in Bolivia.

Table 3-1: Summary of Socio-Economic Indicators in Bolivia[a]

Indicators	Total	Urban	Rural
Population (in Millions)	8.32	4.83	3.91
Men (%)	49.4	48.5	50.5
Women (%)	50.6	51.5	49.5
Population Density (h/km^2)	5.8	-	-
Heads of Household			
Men (%)	80.5	79.2	82.8
Women (%)	19.5	20.8	17.2
PopulationGrowth Rate	2.11	4.16	0.09
Global Fertility Rate	5.0	4.2	6.3
Children's Mortality Rate[b]	67.0	50.0	90.0
Illiteracy rate	20.0	8.9	36.5
Men (%)	11.8	3.8	23.1
Women (%)	27.7	15.5	49.9
Illiteracy Heads of Household	21.0	9.0	37.0
Men (%)	15.0	4.0	28.0
Women (%)	40.0	23.0	66.0
School Attendance (6-19 Years of Schooling)	74.3	82.5	62.9
Men (%)	76.5	84.2	66.2
Women (%)	72.1	80.9	59.3
Economically Active Population	50.0	43.0	60.0
Men (%)	62.0	56.0	71.0
Women (%)	38.0	31.0	48.0
Unemployment Rate[c]	4.4	6.8	0.8
Men (%)	4.8	7.4	0.9
Women (%)	3.9	6.2	0.7
Economic Dependency Index (I/A)	153	188	117
Average household size	4.35	4.48	4.20
Population with Access to Treated and Running Water (%)	54.0	81.0	19.0
Population with Access to Electric Energy (%)	55.5	87.6	12.4
Population with Access to Sanitation Services (%)	42.8	82.0	18.0
Population Who Are Owners of Their Household (%)	65.5	48.9	57.1
Poverty Index According to Unmet Basic Needs[d]	69.9	51.1	95.0
Poverty Index According to Poverty Line[d]	63.2	51.0	82.0

[a] Except where indicated, *Censo Nacional de Población y Vivienda e Instituto Nacional de Estadísticas*, 1992 is the source of statistics.
[b] *Encuesta Nacional de Demografía y Salud*. INE-DHS, Bolivia, 1998.
[c] Instituto Nacional de Estadística, 1999.
[d] *Estrategia Bolivia de Reducción de la Pobreza (EBRP*), Bolivia 2001.

3.2 Literacy in Bolivia: Its Links to Social and Economic Indicators

Literacy in Bolivia must be understood within the context of linguistic diversity, gender differences, and urban and rural disparities in the country. The overall adult literacy rate in Bolivia is 80%, with female literacy at 72% and male literacy at 81%. When the National Census for Population and Housing was conducted in 1992, one in every five Bolivians older than 15 did not know how to read or write. Approximately 745,000 people in this age group were considered to be in the category of "absolute illiteracy,"[6] and 1,118,500 people were not "functionally literate," for a total of 1,863,500 people older than 15 years who were illiterate.

3.2.1 Illiteracy Among Indigenous Groups

Approximately 30 indigenous groups exist in Bolivia, each with its own language.[7] Illiteracy is particularly high among these groups, most notably in the Aymara regions of La Paz, Oruro, and Potosi and in the Quechua regions of Potosi, Chuquisaca, and Cochabamba. The highest rates of illiteracy occur among the Guaranis of Santa Cruz, the Chuquisaca and Tarija (25%); the Chiquitanos and Guarayos of Santa Cruz (18.5%), and the Moxos (19.6%) and Movimas (15.8%) of Beni, all located in the eastern part of Bolivia in the Amazon region. In addition to this mosaic of indigenous languages within these groups, Spanish, the colonial language, has been present for nearly five centuries and is the official language of the country (Hornberger, 1997).

In 1992, absolute illiteracy in the rural areas was four times higher than in the urban areas (37% compared with 9%). The departments of Chuquisaca and Potosi had the highest rates, and Santa Cruz and Beni had the lowest. The census did not address rates of functional literacy, though it is known to be even higher in the rural areas. Women in Bolivia have a rate of illiteracy that is 2.5 times greater than that of men. The departments with the highest rates of illiteracy among women in Bolivia are Potosi and Chuquisaca.

3.2.2 Literacy Programs in Bolivia and The National Plan for Literacy

According to the Bolivian Center of Social Studies (1994), literacy programs have had minimal qualitative and quantitative impact on improving literacy rates in Bolivia over the years. The history of Bolivian literacy programs demonstrates a lack of long-term strategic planning and the inability to take into consideration the country's ethnic and linguistic diversity. The Center also mentions several other reasons for the failure of previous literacy campaigns sponsored by government: 1) lack of collaboration between the private and public sectors; 2) scarcity of resources allocated to literacy and adult education campaigns and programs; 3) lack of monitoring, evaluation, and technical orientation; 4) exclusion of the rural population as beneficiaries; and 5) lack of priority given to adult education within the educational system.

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[6] Absolute illiteracy refers to the inability to read or write at all. Functional literacy refers to having sufficient skills to use reading and writing to perform necessary functions in daily life.

[7] The official language in the country is Spanish. However, monolingual indigenous communities exist in rural areas. According to a linguistic census carried out by Xavier Albo in 1992, of the 87% of the population who claimed to be Spanish speakers, only 42% were monolingual Spanish speakers, and the rest spoke another indigenous language. The remaining 13% of the population spoke only an indigenous language.

In 1994, the Educational Reform Law identified the Ministry of Alternative Education as the umbrella organization in charge of literacy programs in Bolivia. The Vice Ministry is in charge of establishing policies for the development of literacy campaigns and of ensuring the fulfillment of those policies by private and governmental organizations. To further this action, in 1998, the Vice Minister for Alternative Education initiated the *Plan Nacional de Alfabetización Para la Vida y Producción 1998-2000* (*National Literacy Plan for Life and Production 1998-2002*). Its general objective is to significantly reduce illiteracy among the population between ages 15 and 45. The Plan specifically targeted those sectors of society that have the most productive capacity and the highest rates of poverty–women, indigenous, and rural populations. Operating from within a decentralized and functional structure, the Plan promotes coordination with public institutions from the civil society and encourages collaboration between NGOs, international agencies, and communities interested in working together to reduce the level of illiteracy in the country with special emphasis on the targeted sectors. The GWE-PRA participating NGOs have incorporated a literacy or basic education component into their programs and worked with high poverty–level populations. A description of the NGOs' philosophy and their integrated approach to literacy and basic education is presented in the section below.

3.3 NGO Profiles

GWE-PRA in Bolivia provided field support activities in materials development, literacy systems design, facilitator training, formative evaluation, and program documentation to four NGOs in Bolivia: 1) Pro Mujer; 2) Gregoria Apaza; 3) CRECER/Freedom From Hunger; and 4) PLAN Altiplano (PIA or PLAN). Programs were chosen in consultation with USAID Bolivia, based on their association with USAID programs and interest in participating in the research. In addition to participating in the GWE-PRA materials development initiative, all four NGOs and an NGO partnership (PLAN/CRECER) took part in the GWE-PRA longitudinal research. The section that follows provides a detailed description of each organization.

Table 3-2 summarizes the main activities carried out by each NGO participating in the GWE-PRA study and the geographical areas in which they work. It also depicts the length of each program offered and the percentage of time allocated to each activity.

Table 3-2: NGO Profiles

	Pro Mujer	Gregoria Apaza	PLAN	CRECER	PLAN/ CRECER
Urban	†	†		†	
Rural			†	†	†
Income-Earning Activities (% Time)	60%	18%	10%	30%	20%
Hours per week	1.05[a]	15	2	40	40
Number of weeks	**	4[b]	12	12	12
Health (% time)	15%	0%	15%	40%	25%
Hours per week			4	40	40
Number of Weeks			44	12	12
Reading/Writing Math (% time)	0%	6%	5%	20%	5%
Hours per week		24	2	35	2
Number of Weeks		10	12	15	12
Community Participation (% time)	10%	28%	5%	0%	5%
Hours per week		8	4		4
Number of weeks		10	3		3
Legal Rights (% time)	0%	24%	5%	0%	5%
Hours per week		12	2		2
Number of weeks		8	2		2
Child Education (% time)	5%	0%	35%	0%	25%
Hours per week			2		30
Number of weeks			12		8
Decision Making/Empowerment (% time)	10%	24%	0%	10%	0%
Hours per week		12		30	
Number of weeks		8		8	
Other (% time)	0%	0%	(Sewage/H2O treatment) 25%	0%	(Sewage/H2O treatment) 15%
Hours per week			1		1
Number of weeks			2		2

[a] Total number of hours per year: 32 hours. Initial training lasts two weeks, one hr/wk. However, Pro Mujer offers continuous training to women enrolled in the program.

[b] Gregoria Apaza offers 4-, 12-, and 36-week courses in income-generating activities.

****** Bi-monthly meetings (12 hours per year); weekly meetings (90 minutes per month).

3.3.1 Pro Mujer

Pro Mujer was established in 1990 in La Paz, where the central office is located. The organization operates seven centers in the city of El Alto, three centers in Tarija, six centers in Cochabamba, and three in Chuquisaca. According to its charter, the mission of the organization is to propose creative and participatory solutions to the problems facing women. Pro Mujer sponsors training activities that encourage women to identify their strengths and to value their experience and knowledge.

The target population of Pro-Mujer is low-income women between the ages of 18-45 who have little opportunity to participate in training and credit programs. While Pro Mujer does not work in rural areas, it works with a migrant population still closely tied to rural communities. Currently, Pro Mujer provides credit and training to 20,000 peri-urban women who lack experience in small enterprises and would not be able to obtain credit otherwise. Loans are provided at a monthly interest rate of 2.5%. The organization has adapted the Village Banking Model by requiring community members to form groups and associations in order to obtain credit. Five community members may form one group and five groups may establish one association. Once the association has been able to pay its initial loan, they can be promoted to another category, where they may get a 40% increase in the amount they borrowed at the beginning of the program. After the second loan has been paid by the association and all participants have attended at least 80% of the Pro Mujer training sessions, the association can ask for another loan with a 30% increase over the previous one. A Credit Committee from the association decides the amount that the participants get during each new loan cycle. This decision is based on an evaluation of the small enterprises that the participants start with their loans, as well as their punctuality in relation to the payment of their loan.

Pro Mujer has established a very strong link between credit and training. One of the requirements to obtain credit is to attend pre-credit and post-credit training programs. The pre-credit program consists of 12 sessions that focus on basic business skills, investment in productive activities and community associations. Trainees organize their own group associations and choose their board of directors. Pro Mujer has established these requirements so that participants are able to obtain credit and to manage their organizations independently.

With a loan payback rate of 99.7%,[8] the post credit-training program has an integrated basic education approach with four modules: Family Health, Sexual and Reproductive Health, Empowerment and Child Development. Trainees discuss and carry out activities organized around specific themes during 45-minute biweekly sessions. Pro Mujer's approach is based on the belief that linking basic education with program participants' daily lives is key in its success. Pro Mujer has found that once women are involved in income-generating activities, involvement in other development sectors follow. The training programs encourage women to assume more active roles in their own and their family's personal development and to become advocates for change.

The Pro Mujer/GWE-PRA materials development team began its work at the GWE-PRA materials development workshop held in January 1998. While Pro Mujer had already developed training materials, the organization identified the need to revise them and make adjustments to their content. The goal of the organization was to prioritize content so that trainees could participate in short weekly sessions and share new and relevant information with their families. Pro Mujer staff also considered the need to address participants' backgrounds, keeping in mind that women who attend the program come to training sessions with a lot of previous information, based on their own experience and culture.

[8] *Pro Mujer Bolivia*, http://www.promujer.org/english.bolivia.htm.

3.3.2 Gregoria Apaza

The Centro de Promoción de la Mujer Gregoria Apaza (CPMGA) is a women's training organization that has been operating in 15 different zones of El Alto since 1983. The center was named after the 18th century Bolivian Quechua revolutionary leader who fought for independence from the Spanish. According to CPMGA, its name symbolizes women's potential to create their own history and to reject subordination to traditional roles and relationships that have been imposed by society. Gregoria Apaza´s mission is to change women's condition of subordination and to overcome gender discrimination present in women's current historical and daily life context through empowerment. The organization aims at constructing a democratic society that recognizes different interests, respects social, economical, political, ethnic, cultural, and gender rights and at creating conditions that will contribute to the sustainable development of Bolivia. Its specific objectives are to achieve the following: 1) women's full incorporation to the processes of citizen participation; 2) transformation of gender relationships in everyday life; 3) reconstruction of gender identity oriented toward equality; and 4) improvement in women's economic condition.

Currently, CPMGA provides services to young and adult Aymara women from District Six of El Alto. Most women in the program are between 15 and 44 years of age, speak both Aymara and Spanish, are married or have a partner (common-law union) and work as vendors. Many are second or third generation migrants who return to their communities of origin at specific times of the year, sometimes staying for several months at a time.

Gregoria Apaza incorporates a gender perspective into the training courses offered to the women in El Alto. The center focuses on four major areas:

1. **Local Management:** Gregoria Apaza offers training in empowerment and leadership to young women. It also generates and provides follow up to the development, management and implementation of strategic proposals with a gender perspective.

2. **Personal and Family Empowerment:** The organization offers a prevention program that promotes equity values through formative education. It also provides psychological and legal assistance to women who are under domestic, sexual, or family violence situations.

3. **Technical and Business Training:** Gregoria Apaza provides training in tailoring, knitting, nutrition, crafts, and literacy. It also assists and empowers women to engage in technical and management processes with a gender perspective.

4. **Communication**: The organization works towards getting gender awareness on the public opinion agenda. This is achieved by producing and broadcasting messages through Radio Pachamama and producing videos.

Gregoria Apaza´s training programs last approximately two months. Two hundred women complete the intensive program each year. Approximately 300 women are trained per trimester and receive a certificate of completion from the Office of Alternative Education, Ministry of Education. Gregoria Apaza collects baseline information as participants enter each training program. Most women find out about the training via word of mouth.

3.3.3 PLAN Altiplano

PLAN is an international humanitarian organization working in many developing countries around the world. The primary mission of PLAN is to improve children's quality of life and ensure that they are able to achieve their maximum potential. The organization also aims to extend the capacity of the community and the family to promote stability, protection, and security for children.

PLAN started working in Bolivia in 1979 with an urban program in La Paz. Since then, PLAN has extended its work to the three major geographical areas of Bolivia: altiplano, valleys and, lowlands and currently works with low-income populations in rural areas of departments of Chuquisaca, Potosí, Tarija, and Cochabamba,. In the Altiplano, PLAN works with more than 16,500 families, sponsors 16,450 children and gives assistance to more than 12,000 women. PLAN International/Bolivia is partner oriented and has developed infrastructure in several rural areas of the country. Sponsorship represents 90% of PLAN´s budget.

PLAN works in five areas:

1. **Building relations**: This area includes sponsorship, child rights and intercultural communications.

2. **Education**: This area emphasizes learning. It recognizes the importance of early childhood education, of preschool preparation, of literacy and knowledge among children and adults.

3. **Health**: The focus of this area is on the physical survival of the child in order to guide its complete development and the well being of all age groups. It incorporates existing policies related to child survival, family planning and HIV/AIDS.

4. **Income generation**: This area emphasizes participation in economic activities. It focuses on income generating activities that center on the child as the final beneficiary.

5. **Habitat**: The focus is on the interconnection of habitat, social and physical elements and their importance for children.

PLAN's primary emphasis in Bolivia is on health and education. PLAN's approach to education is holistic. The underlying philosophy is based on the belief that because learning is a community-supported activity, it is successful only when teachers, parents, and the community are involved. It provides a wide range of educational training for all ages: early childhood education, some nonformal education with village banks (in collaboration with Pro Mujer and CRECER) and adult education, particularly in the health domain. PLAN works with community health volunteers, parents, and local governments and performs impact evaluations of their programs in the communities where they are involved.

3.3.4 CRECER

Freedom from Hunger and Crédito con Educación Rural (FFH/CRECER), an affiliate of Freedom from Hunger, provides a wide range of development assistance as part of its rural community banking operations, including women's basic education. CRECER, whose name plays on the acronym for Credit with Rural Education and the Spanish word "to grow" began its activities at the beginning of 1990. The CRECER program seeks to reach the poorest areas in Bolivia by using a combination of micro-credit (small scale credit for productive and commercial activities) as a mechanism for promoting behavioral changes that improve the health and nutrition of the beneficiaries. FFH/CRECER's activities operate under the premise that the combination of credit and education has a higher impact than credit or education alone.

FFH/CRECER works with 25,000 women from rural areas through 1,300 community banks. Ninety-five percent of the program participants are illiterate. FFH/CRECER works exclusively with women in order to reach their target population, which is children under the age of three. FFH/CRECER assumes that the mother, usually the primary caregiver, is in charge of breastfeeding, nutrition, immunization, hygiene habits, sexual and reproductive health, and administration of the household. FFH/CRECER has found that women are more likely to invest their money in the household than men.

FFH/CRECER implements PLAN's credit and education program, which is based on the community Village Banking Model. This model works with groups of women who receive nonformal basic education in Quechua or Aymara, two of Bolivia's indigenous languages. FFH/CRECER organizes groups of women into community banks that normally consist of 15 to 30 women who obtain a loan and meet once a week to repay their loan and get training related to basic health. These banks receive and manage small loans and then repay them over a period of four months. Individual women may borrow money to build credit, which in turn, increases their credit limit. During the loan cycle, training sessions are usually conducted on a weekly basis. These sessions focus on bookkeeping, profit calculations, and other financial management skills. The duration of the modules varies according to the topics being addressed. "Management of the Credit Association" is an ongoing module that is given priority during the first loan cycles. On average, the FFH/CRECER modules take 7 to 12 sessions, and each training session lasts 20 to 30 minutes. FFH/CRECER also operates a basic education program with the following basic health components: a) diarrhea disease; b) breastfeeding; c) nutrition; d) family planning; and e) immunization.

3.3.5 PLAN Altiplano/CRECER Joint Venture

In 1994, Freedom from Hunger and Credito con Educación rural (FFH/CRECER) established a partnership with PLAN to coordinate activities that would benefit families in the rural Altiplano regions. FFH/CRECER received funds from PLAN to develop programs that link credit with education in the Altiplano region.

For the materials development technical assistance and production process, FFH/CRECER and PLAN established a joint venture. PLAN/CRECER had basic education materials that needed to be revised, field-tested, and produced. Both organizations differed from other NGOs and required

different organizational strategies for GWE-PRA technical assistance. Their main interest was to revise and finalize the production of their family planning module.

PLAN and CRECER teamed up to produce the Freedom from Hunger/CRECER manual entitled *Planificación Familiar en Nuestras Comunidades*, designed for pre-literate audiences. This manual was designed into 12 educational guides. The guides were pre-tested, with both *promotores* (promoters) and with women in Village Banks with whom CRECER is working. Quechua language materials were pre-tested in six sites in Cochabamba, and Aymara language materials were pre-tested in eight sites in La Paz.

4. TECHNICAL ASSISTANCE FOR MATERIALS DEVELOPMENT

The materials development component of the GWE-PRA activities implemented in Bolivia was designed as a capacity building opportunity for the NGOs that participated in the longitudinal study. The USAID Mission in Bolivia, which contributed $500,000 for the project, funded a large part of the materials development activity. The four NGOs involved, Pro Mujer, Centro de Promoción de la Mujer Gregoria Apaza, CRECER and PLAN needed integrated literacy and basic education materials with a strong focus on health and took this task as one of their priorities. A fifth NGO, Centro de Promoción Minera (CEPROMIN), started its materials development process during the second phase of the technical assistance provided by GWE-PRA. Given its late start up in the activity, CEPROMIN did not take part in the longitudinal study.

The integrated literacy and basic education activities undertaken by the four NGOs and the PLAN/CRECER partnership can be described along a continuum of literacy and basic education activities for women, with one of the NGO's program spanning more than one point on the continuum. The literacy and basic education activities of the four participating NGOs and the joint venture can be depicted along the following continuum.

? **Pre-literacy/literacy readiness** in which most educational activities are oral in nature, with activities focusing on building awareness, knowledge and skills related to specific messages (content). CRECER and PLAN's program interventions fall into this category.

? **Basic integrated literacy courses** often consist of beginning, consolidation and post-literacy or follow-up phases in which specific development messages (health, agriculture, environment, or occupational information) are integrated with literacy skills development. The literacy programs implemented by Gregoria Apaza and CEPROMIN fit this point of the continuum.

? **Post literacy and basic education** is a course for women who can already read and write but who may have low levels of literacy skills. In these programs specific development content (maternal and child health, reproductive health, and HIV/AIDS) is provided to women in addition to other programmatic inputs (credit, savings for example). Pro Mujer's programs fit this point on the continuum.

This section examines the integrated literacy and basic education materials development processes that took place among and within the NGOs mentioned above. For a complete report please see *the GWE-PRA/Bolivia Materials Development Report*.

4.1 The Materials Production Design

World Education organized a workshop in Boston in mid-1997 to provide an orientation for the core members of the Bolivia team on its approach to literacy materials development. In addition, this workshop identified basic principles of adult education and experiential learning that were to be incorporated into materials developed through GWE-PRA, as well as the basic working philosophy of the approach to technical assistance that the EDC/Bolivia team would provide through GWE-

PRA on the ground. The initial workshop resulted in the development of a draft design that the GWE-PRA/Bolivia team then used in the first materials development workshop that took place in January 1998. Each subsequent workshop was planned jointly in Bolivia by staff from EDC/Bolivia and World Education/Boston in response to the emerging needs of the participating NGOs. Each workshop design was prepared in Spanish and English, with the facilitation of the workshops usually being in both languages. Workshop reports were generated following each activity.

The overall materials production design was developed to provide field support for:

1. integrated literacy and basic education materials development;

2. delivery systems development;

3. research/evaluation systems development;

4. development of a documentation strategy;

5. pilot-testing of integrated literacy and basic education materials;

6. convening workshops to review the process and outcomes of pilot with all project stakeholders;

7. field support for finalizing integrated literacy and basic education materials and revised delivery system; and

8. expanding the first year's activities for second cohort of NGOs participating in GWE-PRA activities.

To accomplish these activities, GWE-PRA provided technical assistance in a process that lasted more than two years.

During its first phase, the production process was designed to address the common needs that arose from the NGOs. This was accomplished in a workshop that lasted three weeks and helped create common ground around a materials production methodology (the experiential cycle model) that was used by all organizations.

This method used in the literacy and basic education materials emphasized the need to start every training with a discussion session, taking into consideration what the trainees already knew in order to introduce new key information to be applied, analyzed, and evaluated. This method was applied in a flexible way by all the materials production teams.

The participants for this introductory workshop were literacy and basic education specialists, as well as people with extensive experience in materials development. In addition to being the starting point, this first workshop was vital, as it helped build a partnership between GWE-PRA and the NGOs that lasted throughout the two years of the

materials development process. This partnership also helped establish a productive working relation and strong organizational ties with the research component of GWE-PRA activities in Bolivia.

Upon completion of the workshop, GWE-PRA designated a technical advisor from the EDC/Bolivia staff to provide targeted technical assistance to each NGO. During this second phase, the organizations were provided with assistance that met the specific requirements of their target audiences and the integrated literacy and basic education programs.

The targeted assistance covered a broad range of issues that helped each organization: 1) complete the design and draft production of a facilitators guide and supplementary material; 2) design and implement field testing processes; 3) create instruments such as observation sheets; 4) organize feedback sessions with the materials production staff from the different organizations in order to share findings from the field; 5) review materials, noting that the results from the field testing would help decide why and how to make adjustments; and 6) correct the materials and prepare them for final production.

The EDC/Bolivia materials development specialists also provided support with graphic design and illustrations, follow up with printing, and documentation of the entire process. GWE-PRA covered most of the final reproduction budget for each of the sets of materials that were developed.

As part of a follow-up strategy, different workshops were organized to discuss and help NGOs plan for:

1. training of trainers in the use of the material;

2. monitoring and evaluation; and

3. gender sensitivity.

According to many of the participants, opportunity to meet frequently to share lessons learned from the different materials production processes was considered to be of great value.

It should not be overlooked that while all NGOs implemented integrated literacy and basic education programs for women and were interested in producing materials with content focused on health, not all had institutional experience in materials development. Some had used “off the shelf” materials developed by other organizations. One NGO had hired consultants to develop its learning materials.

4.2 NGO Requirements and Partnership with GWE-PRA

4.2.1 Pro Mujer

As a training institution, Pro Mujer had previous experience in materials development. However, after having used the same materials for several years, they were ready to revise and make adjustments. GWE-PRA technical assistance helped this organization prioritize the content and shorten training sessions in order to focus on concrete and relevant activities.

Pro Mujer staff wanted to make sure that their trainees were able to get relevant and practical information. Another important consideration for this NGO was the need to address the trainees, keeping in mind that these women came to the training sessions with a lot of previous information, which was based on their own experience and culture.

4.2.2 Gregoria Apaza

Though the organization did not focus on literacy, Gregoria Apaza´s other training programs revealed a need to improve participants' literacy skills. However, Gregoria Apaza found that literacy materials from other organizations did not have an appropriate gender or values orientation and were therefore contradictory to their philosophy. Before materials development activities were initiated through GWE-PRA and Gregoria Apaza, their literacy area was the least structured and in most need of technical assistance.

Gregoria Apaza´s objective in relation to the partnership with GWE-PRA was to develop materials that would emphasize the teachings of literacy skills through the content of gender and empowerment. Deliberately weaving literacy into gender content was a departure from the other NGO approaches. Although Gregoria Apaza does not provide direct health services, they include information on reproductive health and sexuality in their curricula.

4.2.3 CRECER/PLAN Altiplano

FFH/CRECER and PLAN Altiplano established a joint venture for the materials development process. Trying to reach consensus with both organizations required more time for discussion from all parties involved. Their starting point was different from the other NGOs and required different organizational strategies, as CRECER had already produced the Freedom from Hunger/CRECER manual, *Family Planning in Our Communities*, designed for pre-literate audiences.

This existing material needed to be revised, field-tested, and produced in a final version. On the other hand, CRECER had also identified family planning content and had ten years of experience with ORPA methodology that stresses the need for observation, reflection, personalization, and application. Trying to merge the experiential cycle with the ORPA methodology was a learning process for all the organizations involved, as both methodologies had interesting educational aspects to be taken into consideration.

CRECER saw the technical assistance in materials production as an opportunity for developing materials that they had already planned, and as a chance to use funding from GWE-PRA to produce a first edition. PLAN saw this process as an opportunity to strengthen the educational component of their community banks and learn a methodological process for materials development.

4.2.4 CEPROMIN

The Centro de Promoción de la Mujer Minera (CEPROMIN) began its materials production process with technical assistance from GWE-PRA one year after the other NGOs began their work.

CEPROMIN staff contacted the GWE-PRA team through representatives from Red de Alfabetizacion (REDALF), a network of Bolivian organizations that works with literacy and had had contact with EDC/Bolivia staff previously. CEPROMIN requested technical assistance in materials production in order to complete their literacy and health programs. They were also interested in acquiring a new methodology.

The CEPROMIN/GWE-PRA materials development team wove health and organizational content into their literacy materials. In two workshops that were designed for materials production, CEPROMIN staff developed a facilitators guide and supplementary materials with CEPROMIN facilitators and community members of the mining centers.

4.3 Field-Testing

GWE-PRA helped staff from all organizations design and implement field-testing strategies, as well as observation sheets that would help gather information related to how the trainees and facilitators responded to the materials that were being tested.

GWE-PRA staff also helped organize feedback sessions and systematize the information. Based on observations gathered in the field, the different production teams were able to improve the quality of all the materials. For example, during field testing for CRECER/PLAN, the observers realized that the training sessions should be reorganized so that they were no longer than 45 minutes. Based on observations during the field testing, Pro Mujer staff came up with many suggestions for the use of the new material. These suggestions were incorporated in a module called *Supplementary Information for the Training Package*.

After field testing, CEPROMIN staff were better able to gauge women's understanding of the illustrations being used. These illustrations were then redesigned based on responses to field testing. To improve other designs, CEPROMIN staff also noted which of these illustrations participants liked best. Field testing also revealed that training should be based on particular themes and that the training hours should be flexible.

4.4 The Products

Table 4-1 depicts materials produced by the NGOs, in collaboration with the GWE-PRA team. All materials production teams worked around major training areas.

Table 4-1: Materials Produced by Major Training Areas

NGO	Major Training Area	Materials Produced
? Pro Mujer	? Empowerment ? Family Health ? Sexual and Reproductive Health ? Child Development	? 4 Facilitators guides for each major training area ? 1 Supplementary guide with suggestions for the facilitator ? 1 Manual with worksheets for the participants ? 18 Posters for group work with the participants ? 46 Cards for group work with the participants ? 6 Audio life stories for group work and plenary sessions with the participants ? 1 Jigsaw puzzle for group work with the participants ? 54 Small cards for group work with the participants ? 2 Large triptychs for plenary sessions with the participants
Gregoria Apaza	? Personal and Family Area ? Social and Political Area ? Economic Area	? 1 facilitators guide ? 1 participants manual ? 54 posters for group work with the participants ? 28 sets of cards for group work with the participants ? Games for group work with the participants ? Audio life stories for group work with the participants ? Small cards for group work with the participants
PLAN/CRECER	? Family Planning in our Communities	? 1 Promoters guide ? 31 Colored posters for group with the participants
CEPROMIN	? Reproductive Health ? Alternative Medicine ? Nutrition ? Environment ? Children's Diseases ? Public Health ? Health and Work	? 1 Facilitators guide ? Audio-stories for group work with the participants ? Posters for group work with the participants ? Cards for group work with the participants ? Small cards for group work with the participants

NGO staff identified specific themes, educational objectives, and concrete activities for each training program. Supplementary educational materials such as worksheets, posters, cards, and audio life stories were also produced.

4.5 Program Documentation

As the materials were developed, GWE-PRA staff documented the process so that each NGO would be able to disseminate the lessons learned within their own organizations. As part of this documentation process, the GWE-PRA/Bolivia team wrote three case studies, one for each partnership that was established with the NGOs that took part in the materials development process from the beginning. The studies describe how each organization developed a set of basic education materials for their target population in a systematic way.

Once all materials were finalized and reproduced, GWE-PRA provided four of the organizations with diskettes and CDs containing all materials that were produced. The idea behind this was to help all NGOs keep internal records of their materials as well as use the materials as a reference for reprints.

4.6 The NGOs Take Ownership of the Materials Production Process

The impact of the association with GWE-PRA can be measured by the products, by the NGO staff who were trained, as well as by how the lessons learned by core staff were disseminated within each NGO.

All NGOs involved in this capacity building experience were able to produce a final version of materials. GWE-PRA helped five organizations produce complete sets of high quality, integrated literacy and basic education materials for more than 110 facilitators, 204 health promoters and advisors and 50,000 beneficiaries. The materials are currently being used in five regions of Bolivia.

Utilizing the entire process as a capacity-building opportunity for all the participating organizations was one of GWE-PRA's objectives. After two years of working together, it was clear that all organizations had benefited by training their personnel. The staff who participated in the workshops and who were part of the materials production process were able to:

1. Apply the lessons learned with GWE-PRA technical assistance within their own organizations.

2. Take ownership of a methodology and a systematic production process that benefited their organizations.

3. Internalize and disseminate a materials production methodology and process.

4. In two cases, produce additional sets of educational material on their own.

5. In one case, disseminate lessons learned by providing technical assistance in materials development to another organization which paid for this service.

4.7 Lessons Learned

A number of important lessons emerged from the training and technical assistance provided to Bolivian NGOs through GWE-PRA. These included:

1. **Technical assistance was not a one-way process. It was a two-way process.** It required time and coordination from all parties involved, keeping in mind that the final goal was to develop products that were produced in a joint effort.

2. **The first materials development workshop, a three-week activity that was highly organized and participatory, was a key starting point for the whole process.** The materials development workshop: a) helped create common ground around a systematic methodology; and b) was a key starting point that benefited all partners in the activity.

3. **The power of process must be recognized.** The materials development process introduced during the first year of GWE-PRA activities in Bolivia became an institutional development process. NGOs had come to recognize that a set of activities that they had previously viewed as being peripheral to program implementation were, instead, central to program implementation. The discussion of NGO needs pertaining to the training of trainers and to literacy and basic education facilitators quickly led to an understanding by NGOs that they were talking about another process that would become an institutional development process.

4. **A materials production process that takes into consideration a high degree of teamwork is extremely productive.** When the work developed by GWE-PRA and the NGOs was organized around teamwork, the organizations quickly took ownership of the process and materials were produced in less time. On the other hand, when certain tasks were left to the GWE-PRA team alone, the tasks took longer and the organizations did not benefit from the technical assistance as much as when all parties shared responsibilities.

5. **The experiential learning approach is equally valid for use in staff training as it is for use with learners in integrated literacy and basic education programs**. At the outset of GWE-PRA technical assistance activities in 1998, several of the NGO participants were skeptical about the merits of the experiential learning model that was modeled by GWE-PRA staff as the central element in each training activity that was designed for the participating NGOs. After participating in the design and implementation of four GWE-PRA activities over two years, several NGO staff noted that their organizations now "think" differently about its work than it did prior to participating in GWE-PRA activities. All participating NGOs noted that the

experiential learning model was a successful way to train their staff in developing basic education and literacy materials and equally effective in programs for project beneficiaries.

6. **Each step of materials development process must be honored.** NGOs participating in GWE-PRA activities learned that there were no shortcuts in the materials development process. Developing quality learning materials required investments in staff time and resources. Each of the NGOs admitted that it had not entered into the materials development activity with a full awareness of how much time was going to be required. A materials production process can become a systematic training process that can be easily replicated within the organization. The economic resources available for the materials development activity, credit and copyright issues as well as the objectives of the organization and the time required in order to accomplish these objectives should be carefully considered at the outset.

7. **Field-testing helps respond to the needs of the target population.** By improving the quality of the materials the target population of the NGOs benefited greatly because they were able to work with more educationally and culturally appropriate materials.

8. **Continuity in staff participation across training and technical assistance activities is a key issue for the sustainability of a capacity building process.** Although each memorandum of understanding between GWE-PRA and the participating NGOs stressed the desirability of sending the same staff members to all materials development activities, only two NGOs did so. As part of a review of outcomes from the training and technical assistance, staff from the NGOs in question explained how continuity in staff participation had allowed their organizations to build a stronger institutional capability to finish agreed upon tasks in a timely fashion and undertake new materials development activities.

9. **Organizing periodic meetings among partners facilitated the whole process.** NGOs that were willing to dedicate time in order to share ideas, communicate results, give feed back and clarify doubts regarding the materials production benefited more and went through smoother processes than organizations that just concentrated on completion of final products.

10. **A materials production process can become a systematic training process that can be easily replicated within the organization**.

11. **CEO (Chief Executive Officer) participation in GWE-PRA activities was a strategy for ensuring greater NGO ownership of the end product.** CEOs were expected to be informed in negotiating initial memorandum of understanding, in ensuring continuity in staff participation over the entire series of workshops, and in meeting regularly with participating staff to review materials development activities. NGO participants were clear about the need for CEO participation and understanding of activities related to GWE-PRA training and technical assistance. NGO staff noted that lack of clarity about GWE-PRA assistance within their organizations resulted in schedules not being kept, staffing commitments not being respected and diminished progress in getting materials to the next step. The active participation of key people from the organizations helped expand the experience within each NGO.

5. METHODOLOGY

In the following sections, we will describe the research design and framework, the sample, data collection, and analysis techniques used in the GWE-PRA/Bolivia.

5.1 Research Design for GWE-PRA in Bolivia

The Girls' and Women's Education Policy Research Activity/Bolivia is a longitudinal study carried out in Bolivia to assess the impact of integrated literacy and basic education programs on the participation of women in the nation's social and economic development. This study focuses on a sample of women participating in five programs.

By assessing the impact of these programs, participants' knowledge, attitudes, and practices related to selected indicators of social and economic development, we can infer that such programs, if implemented on a larger scale would ultimately result in changes in the larger society as well. The NGO programs included in the study cover areas in which about 60% of Bolivia's population resides.

We would expect that if the program does have an impact, the larger the program area, the greater the impact would be nationally. By studying a random sample of women who participated in the literacy program, we can reasonably infer that if the sample is indeed representative, the larger population of women participating in the same programs in other parts of the country would demonstrate similar results. By comparing these results with those of a random sample of women in similar conditions who did not participate in the programs, then we can identify the effects of the program intervention on these indicators.

The preceding section described the role World Education and EDC played in providing technical assistance to the NGOs and the NGO partnership participating in the GWE-PRA longitudinal study. However, this assistance should have no impact on the validity of study results for several reasons. First, the primary responsibility for the research design and data analysis of the study rests with Harvard University, through its Graduate School of Education (GSE). The GSE Research Director has worked closely in collaboration with World Education staff, EDC/Bolivia, and NGOs in Bolivia to ensure that the research is free of bias. A scientific methodology (as described in the methodology section) was adopted and rigorously adhered to throughout the study.

Second, while GWE-PRA staff have provided NGOs with advice and guidance on the development of the literacy components of each of their programs, the program implementation work was carried out by the NGOs, rather than by GWE-PRA staff. Interviewers and local research staff were carefully selected to ensure that they had no prior affiliation with either of the literacy programs under examination.

Finally, it was made clear from the outset that this study was not an evaluation of the literacy programs, *per se*, but rather was initiated to determine whether literacy programs of this type had an

effect on women's participation in the country's social and economic development. The study does not attempt to assess program performance or make judgments about the extent to which the programs meet their objectives.

5.2 Research Questions

The study design consisted of both quantitative and qualitative data collection techniques. A cost-effectiveness analysis was also conducted to determine expected outcomes, given participating NGOs' financial input. To assess program impact, two broad research questions were posed.

1. To what extent did the private returns to women participating in integrated literacy and basic education programs change over a three-year period (1998-2000) in comparison to women who did not participate in these programs?

2. What elements of the integrated literacy and basic education programs contributed to these changes, taking into account other important factors?

Four hypotheses concerning the impact of integrated literacy and basic education programs on development were tested. These hypotheses focused on respondents' awareness (knowledge) and behavior (practice and skill).

1. Women who participate in women's integrated literacy and basic education programs *are more aware* of health and reproductive health issues, the importance of children's education, legal rights, and community participation than they were prior to participating in the program, and are more aware than women who do not participate in the programs.

2. Women who participate in these programs *obtain better skills* in literacy, dealing with health and reproductive health issues and managing money than they did prior to participating in the program and in comparison to women who do not participate in the programs.

3. Women who participate in these programs are *more likely to participate* in income-earning activities, political elections, school activities, and community activities than they did prior to participating in the program and in comparison to women who do not participate in the programs.

4. Elements of the women's basic education programs, including characteristics of facilitators, program length, teaching methods, facilities, costs and so on, have an important impact on the delivery of training programs, which then affect the program's impact.

5.3 GWE-PRA Research Conceptual Model

For the quantitative portion of the study, a "quasi-experimental" design, with an experimental and a control group was employed. The design was "quasi-experimental" because participation in the intervention or experimental group (integrated literacy and basic education programs) was voluntary. Hence it was not possible to "control" whether or not respondents enrolled in or dropped

out of the programs. In the strict sense, the non-participant group is technically a "comparison" group rather than a "control" group. However, throughout this study the conventional term "control" group is used to describe the women not participating in the integrated literacy and basic education programs. Although the study was not a "true experimental design," a longitudinal aspect of the design accommodated some of the quasi elements (e.g. selection bias) by controlling for the baseline variance in indicators of social and economic development.

Women in the experimental and control group were interviewed each year over a three-year period, using a written survey instrument. By following the two groups over time, changes in indicators related to social and economic development were measured and a determination was made whether to "confirm" or "reject" the posed hypotheses.

It should be noted that some uncertainty is always associated with self-reporting, due to unknown factors such as the adequacy of respondents' memories, the extent to which they respond to questions honestly, their understanding of the questions, and their willingness to provide the information. Consequently, the design incorporates a number of methods of "triangulation." For example, to verify respondents' claims concerning their children's immunization, interviewers asked to see immunization cards. Similarly, responses to selected questions, such as whether the women had previously participated in a literacy class, were cross-checked by interviewing facilitators, as well.

In addition, the design included qualitative interviews. Follow-up interviews were conducted with a sub-sample of women who were selected based on their answers to key questions on the survey. The sub-sample included only women whose responses represented "extreme values." For example, women who scored either very high or very low on indicators of socio-economic status were interviewed to provide more in-depth information about their knowledge and practices. Interviews with a sample of facilitators who taught in the programs also helped to assess specific aspects of program effectiveness. This report describes only the results of the survey portion of the research.

Figure 5-1 illustrates the conceptual model that guided research activities in Bolivia. In this model, the research generated three types of data: *input*, *process*, and *outcome*. As depicted in this figure, i*nput* information was provided on seven indicators of social and economic development, as well as on their background and overall socio-economic status at baseline. The *process* level represents women's participation in the programs within the study time frame. *Outcome* level data show changes in the knowledge, awareness, attitudes, and skills/practices that may be attributed to the programs, and thus, provide an estimate of the program's impact on their social economic development over a three-year period.

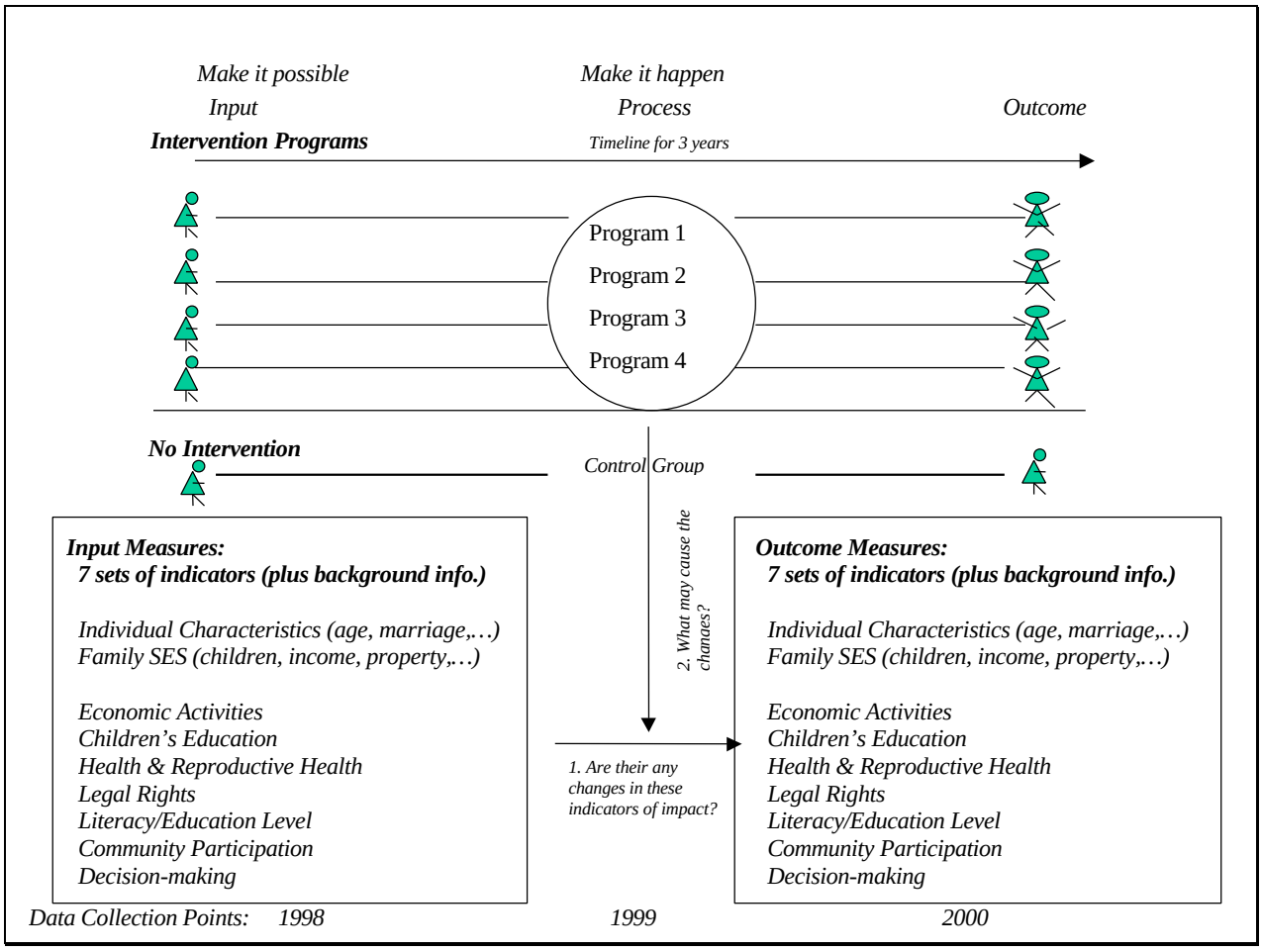


Figure 5-1: Longitudinal Research Model for GWE-PRA, Bolivia

Girls' and Women's Education, Policy Research Activity (GWE-PRA) with funding from USAID
World Education, Inc., Harvard Graduate School of Education, Education Development Center, Inc.

Seven areas of indicators were developed to measure respondents' level of participation in social and economic development: 1) literacy and education; 2) children's education; 3) health and reproductive health; 4) participation in economic activities; 5) household decision making; 6) community participation; and 7) awareness of legal rights. Why are these indicators important? They measure are factors that are critical to women's empowerment and their overall social and economic development. Consequently, it is important to know whether the programs in the study are contributing to increased knowledge, awareness and practices related to these key indicators.

These broad areas were transformed into quantifiable indicators, and ultimately into variables. Assessment of indicators was conducted in five categories–awareness, knowledge, attitudes, stated facts (self-reported skills and practices) and observable skills and practices. The first four categories were assessed through survey questions. The last category, observable skills and practice, were assessed through a literacy assessment instrument or "test." Figure 5-2 depicts the matrix utilized to identify specific components in each area.

Researchers were asked to fill out each of the 35 cells in the matrix with at least 5 specific measures. Use of this matrix allowed the research team to develop indicators, variables, and finally, specific questions for the survey instrument. This process enabled the research team and members of NGOs to become fully involved in the instrument design and in the development of specific questions. The matrix also provided the framework for answering the main research questions: 1) Were there any changes in the indicators over time? 2) What factors contributed to these changes?

	Knowledge	Awareness	Attitudes	Stated Facts (Reported Skills and Practices)	Observable Skills/Practices
Literacy and Education					
Children's Education					
Family and Reproductive Health					
Participation in Economic Activities					
Household Decision Making					
Community Participation					
Legal Rights					

Figure 5-2: Indicator Matrix Utilized for Developing Survey Instrument

Figure 5-3 depicts the relationship between the main construct and the indicators, and variables. It depicts two layers of nested relationships. The first layer is the linkage between the eight major areas of indicators (including the background and SES indicators) and the specific variables that

contributed to the indicators. The second layer represents the relationship between the overall construct–social and economic development–and the indicators. Researchers utilized this diagram as a framework for analyses.

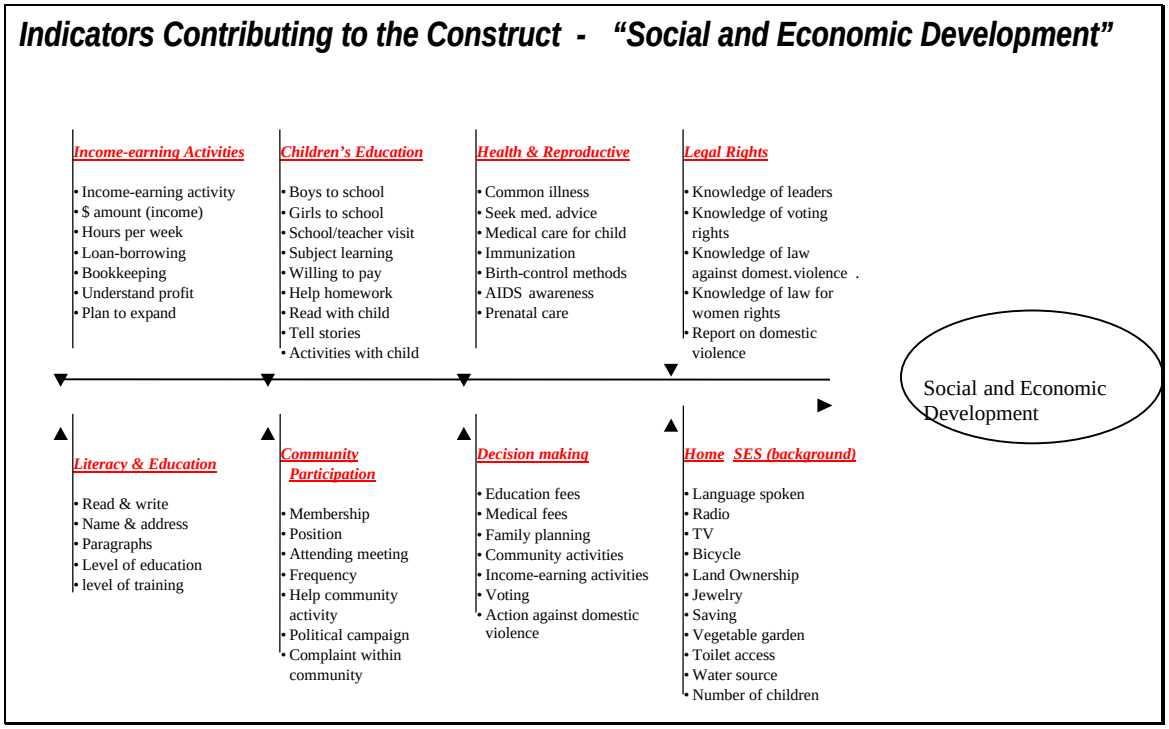


Figure 5-3: Contributions of Variables to Indicator and Indicators to Construct

5.4 Sample Selection

Four NGOs participated in the GWE-PRA study–Pro Mujer, Gregoria Apaza, PLAN, and CRECER/Freedom from Hunger. Additionally, as previously mentioned, PLAN and CRECER formed a partnership for the purposes of developing program materials which were administered by CRECER. Participants using these jointly-prepared materials were also included in the study. As described in the previous section, all NGOs had long-term experience in carrying out integrated literacy and basic education programs for women and expressed a need for research to inform their policy interventions and decision making.

In this longitudinal study, the progress of women from both the experimental and the control group was tracked over three years. A relatively large sample of 2,200 women was selected, anticipating a sample loss of 20% to 30% per year. All the women in the sample were of reproductive age (15-45).

5.4.1 Experimental Group

The two largest areas of program coverage for the four NGOs in Bolivia are La Paz and Cochabamba (estimated at about 60% of the population coverage area). The sample for the experimental group was randomly selected from multiple classes of each NGO program in these

two areas. The number of classes selected depended on the size of the program. In general, about 20 classes from each NGO program and about 20 participants from each class were randomly selected, resulting in a sample of 400 participants from each NGO program. If a class was smaller than 20, all of the participants were selected to be interviewed.

The sample for the experimental group was drawn only from women who were newly enrolled in the programs. This means that the majority of women had not yet participated in a program at the time of the interview. However, due to the large number of interviews, it took 20 interviewers about one-and-a-half months to complete all interviews. Therefore, by the time they were interviewed, some women in the experimental group had already begun their training. The women's exposure to training ranged from a few days to a few weeks. To minimize interruptions to participants' training activities, the NGO research coordinators advised researchers of the appropriate dates to visit the centers. After obtaining class schedules and names of the participants in each course, workshop, common group or community bank, site visits, and interviews were carried out.

5.4.2 Control Group

A slightly larger control group of non-participants (600 women) was selected due to the relatively high possibility of "losing" them during the study period, since they might join NGO educational programs or become unavailable for interviews.

Women in the control group sample were selected from both urban and rural areas. For the urban control group, four urban census areas were selected, based on the coverage areas of Gregoria Apaza and Pro Mujer in El Alto. Thus, for the urban control group, the census areas[9] around the training centers of each NGO were taken into account to avoid a widely dispersed sample. In each area 12 neighborhoods were randomly selected to ensure extensive coverage, and one woman was interviewed in each neighborhood.

For the rural control group, the sample was selected from the same geographical areas in which the NGO programs were underway. Each NGO helped identify the communities and rural sectors where it was working, as well as its plans for the future. An attempt was made to select areas with the same geographic and population characteristic of the women in the experimental group in order to have comparable cohorts.

5.4.3 Planned Versus Actual Interviews

Table 5-1 summarizes the number of interviews planned and carried out in each of the NGOs in the baseline year. Approximately 93% of the planned sample was actually collected in La Paz and 100% in Cochabamba.

[9]According to *Instituto Nacional de Estadistica* (*INE*), Census Area is defined as the geographical division of the cities according to the number of households in each one. A Census Area is divided into sectors, and each sector into neighborhoods. The average size of a neighborhood is 200 households.

Table 5-1: Sample Sizes, Interviews Planned and Carried out in Baseline Year

	Interviews		
	Number Planned	**Number Carried Out**	**Actual Percent of Planned (%)**
La Paz	1,800	1,712	95%
Experimental Group	1,300	1,208	93%
Gregoria Apaza	400	350	88%
Pro Mujer	400	397	99%
PLAN	300	304	101%
CRECER	51	51	100%
PLAN/CRECER	149	106	71%
Control Group	500	504	101%
Urban	300	302	101%
Rural	200	202	101%
Cochabamba	400	100	100%
Experimental Group			
CRECER	300	300	100%
Control Group	100	100	100%
Urban	-	-	-
Rural	100	100	100%
Total	**2,200**	**2,112**	**96%**

5.5 Sample Loss

Only those women who were interviewed in all three years were included in the analysis. At baseline, 2,112 women were participating in the GWE-PRA study. By the end of year three, 1,563 women were still participating in the study (a loss of about 26%). The reduction in sample size can be attributed to the following: 1) participants permanently or temporarily relocated to an unknown location; 2) participants refused to be interviewed or 3) participants' died. In general, women in rural areas were less mobile and, thus, easier to locate than women in urban or semi-urban areas.

An additional factor (joining training programs) also contributed to reduction in the number of surveys included in the analysis. During the three years, a number of women in the control group joined some type of training program, including those offered by one of the NGOs in the GWE-PRA study. Similarly, some women in the experimental group joined training programs other than those offered by the NGOs in the GWE-PRA study (Gregoria Apaza, Pro Mujer, PLAN, CRECER or the PLAN/CRECER partnership). Because of this, it would not be possible to determine the effect of the programs in the study if all women in the original sample were included in the analysis. Consequently, any women in the experimental group who participated in NGOs other than those in the GWE-PRA study, as well as women in the control group who participated in *any* training program during the period were excluded from the analysis. As a result, the sample size

was reduced to 941 (717 in the experimental group and 224 in the control group), a decline of about 44.6% from the baseline year (see Table 5-2).

Table 5-2: Sample Size over Three Years

	Total				Percentage Loss (%)			
	Year 1	Year 2	Year 3	All 3 Years[a]	Years 1-2	Years 2-3	Years 1-3	All 3 Years[a]
By Group								
Control								
Rural	302	268	201	96	11.3	25.0	33.4	31.8
Urban	302	251	227	128	16.9	9.6	24.8	42.4
Experimental								
Rural[b]	613	533	497	292	13.1	6.8	18.9	47.6
Urban[c]	895	737	638	425	17.7	13.4	28.7	47.6
By NGO								
Gregoria Apaza	350	284	255	180	18.9	10.2	27.1	51.4
Pro Mujer	397	329	295	197	17.1	10.3	25.7	49.6
PLAN	304	265	242	136	12.8	8.7	20.4	44.7
CRECER	351	308	272	144	12.3	11.7	22.5	41.0
NGO Partnership								
PLAN/CRECER	106	84	71	60	20.8	15.5	33.0	56.6
Total	2,112	1 ,789	1,563	941	15.3	12.6	26.0	44.6

[a] For the experimental group this *excludes* any women who joined a program offered by any organization other than Gregoria Apaza, Pro Mujer, PLAN or the PLAN/CRECER partnership; for the control group this *excludes* any women who joined a training program during the period.

[b] This includes PLAN/CRECER and PLAN participants, all of whom were in rural areas, and the CRECER participants, who were in rural areas.

[c] This includes Gregoria Apaza and Pro Mujer participants, all of whom were in urban areas, and the CRECER participants who were in urban and semi-urban areas.

The reduction in sample size did not have a major impact on our ability to implement the research design, since the sample was large enough to study variations among programs, classes, and individual participants, as well as among urban and rural and other sub-groups of the population. This sample size provided sufficient degrees of freedom to study variations among programs, classes and individual participants, as well as among urban and rural and other subgroups of the population. The nested structure of the design allowed for the use of various statistical techniques to identify relationships among variables from all levels, including participants, programs, and NGOs. This enabled the identification of class and program factors having an impact on the socio-economic measures for individual participants.

Table 5-3 depicts the types of training programs some of the respondents joined during 1998-2000. Among the training programs cited by these women were general and reproductive health, microenterprise, micro-credit and skills related training (knitting, tailoring, handicrafts and other programs to increase women's income-earning capacity). Overall, the most frequently attended programs reported by women dropped from the experimental and the control group were health and reproductive health programs.

Table 5-3: Percentage of Women Participating in Other Training Programs

	Experimental[a] (%)			Control (%)		
	Year 1	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Women who participated in other training programs[b]	14.0	14.3	20.6	20.5	25.5	35.4
Type of Program[c]						
Literacy	3.5	3.4	4.6	2.1	3.0	4.7
Microenterprise development	0.8	1.2	1.6	0.2	2.1	0.4
Technical skills	8.5	6.8	12.9	7.0	10.1	16.9
Health and reproductive health	6.7	4.8	8.7	7.7	12.9	19.7
Other[d]	0.7	0.7	2.8	0.9	1.4	8.4
Total n	1,136	1,136	1,136	427	427	427

[b] More than one response was allowed so totals do not total to 100%.

[b] These respondents were dropped from the analysis because of their participation.

[c] Excludes Gregoria Apaza, Pro Mujer, CRECER and PLAN and the PLAN/CRECER partnership.

[d] Includes leadership, legal rights, community participation, and other areas.

5.6 Interviewing and Tracking Participants

The GWE-PRA survey instrument was highly structured, with multiple-choice answers. The initial instrument was developed by a research team from World Education, Harvard University's Graduate School of Education, and EDC, in collaboration with Bolivian NGOs. After the pilot instrument was tested and edited, the final version of the survey instrument consisted of 154 questions. Each interview took, on average, about 50 minutes to complete.

Each year, all interviewers participated in a five-day training activity. All interviews were carried out either at women's homes or at the NGO training sites. Most of the interviews were conducted when the women were alone. However, when the women had to care for small children, the children were allowed to be present. In every case efforts were made to interview the women when the husband or father was not present, particularly when questions about sexual health and domestic violence were being asked. Most of the women in the experimental group were interviewed at the NGO training sites during the first year, at the beginning of their participation in the integrated literacy and basic education programs. Women in the control group were interviewed at their homes. At the end of each interview, the interviewer sketched out a map of the household location in the village or community. The map was tremendously useful in locating these women for the data collection in years two and three.

5.7 Interviews with Facilitators

Table 5-4 shows the number of participants and facilitators interviewed in each NGO, as well as the participant to facilitator ratio. All 37 NGO facilitators for the classes from which women in the experimental group were selected were interviewed. For the most part, the facilitators in the study remained the same over the three-year period. The class sizes in the NGO programs ranged from 6 to 101. There was considerable variation in the participant to facilitator ratio. The ratio of participants to facilitators differed among the NGOs in both rural and urban areas. Some facilitators held as many as eight classes. Participants in the training programs rotated frequently, and one facilitator might possibly work with several groups in one day, since the training sessions were short and focused. For example, Pro Mujer's post-credit sessions w only 30-45 minutes long. Additionally, the wide dispersion of rural communities and villages made the facilitation of training difficult. This may have resulted in inadequate training in some areas, thus diminishing the facilitators' effectiveness and ultimately reducing the impact of these programs.

Table 5-4: Participant/Facilitator Ratio by NGO

	Number of Participants Interviewed	Number of Facilitators Interviewed	Participant to Facilitator Ratio
NGO			
Gregoria Apaza	350	14	25
Pro Mujer	397	8	49
CRECER	351	8	44
PLAN	304	2	66
NGO Partnership			
PLAN/CRECER	106	5	21
Total/Average	1,508	37	41

Information was collected about the background and qualifications of facilitators in the sample who were teaching in the integrated literacy and basic education programs of the four NGOs, as well as in the PLAN/CRECER partnership. These data were analyzed in conjunction with other factors in efforts to explain variation in participants' performance across NGOs and locations. The survey instrument included facilitator information in the following areas:

1. family characteristics;
2. education, training and experience;
3. salary for facilitation;
4. class and subject information (including teaching hours and class size);
5. materials used for training;
6. teaching and evaluation method; and
7. attitudes and confidence demonstrated by participant in the classes taught by the facilitator.

5.8 Emphasis On "Changes"

The main focus of this longitudinal research was to assess the magnitude of systematic change on the participation of women in social and economic development in Bolivia over a three-year period (1998-2000). In order to evaluate the extent of these changes, a comparative analysis of data across the three years was conducted. Given the fact that women in the experimental and control group had very different characteristics and were at different levels of participation in social and economic development at baseline, we analyzed "gains" over time by making comparisons within specific sub-groups, such as experimental and control, rural and urban, NGO, and so forth.

Our main hypothesis was that women in the experimental group would demonstrate greater change on the indicators of participation in social and economic development than that of women in the control group. To test this hypothesis, we examined the same indicators in years 1, 2, and 3 and looked for consistent trends over time. We then identified program variables that may have influenced these changes. Finally, more complex models were constructed to explain relationships between the changes in these indicators and relevant factors.

5.9 Composite Construction

During the design stage, eight sets of multiple indicators were developed (including indicators of SES) as proxy measures of participation in social and economic development–a general construct that cannot be directly measured. After the data were collected for all three years, a set of composites for each indicator area, as well as an index score for women's participation in social and economic development, were developed. The final indicator area composites included knowledge, attitudes and behavior related to literacy and education, family and reproductive health, economic participation, household decision making, community participation and legal rights. These indicator area composites were analyzed to identify interrelationships among indicators, as well as to assess the reliability of the overall measure of the construct (social and economic development). A detailed explanation of composite construction can be found in Section 10.1.

5.10 Cost Effectiveness

This study included an analysis of program costs in relation to effectiveness of the NGO programs under examination. The results of that analysis are presented in a separate report.

5.11 Limitations

The indicators of social and economic development employed in this study (described earlier) are "proxy" indicators in that they served as substitute measures for assessing actual changes in economic productivity, fertility, nutrition, empowerment and so forth. Ideally one would wish to measure these variables directly. However, studies utilizing techniques that allow for direct measurement are extremely time consuming, costly, and ethically questionable. For example, to directly assess program impact on fertility, it would be necessary to track birth rates of respondents over their reproductive life span (10 to 20 years) as well as to have direct knowledge of their reproductive practices. To assess changes in health and nutritional status would require access to

medical records, height and weight charts, etc. Assessing changes in economic status would require direct knowledge of salaries, savings account balances, and other personal financial information. Because of the need for confidentiality (of medical, school, and financial records), the rights of respondents to privacy and the costs associated with collecting such information, it was simply not feasible to obtain these direct measures.

Hence, this study employed the use of "proxy" measures that rely primarily on self-reporting to estimate changes in behaviors and practices. For example, the measures used in this study provide an estimate of fertility by calculating the birth rate of the women in the sample over the duration of the study. It should be noted, however, that measures over such a short period cannot be considered accurate measures of long-term fertility rates. While such measures provide an estimate of changes, and the pre- and post-experimental and control group research design allows for making reasonable inferences about the attribution of changes to the programs under examination, the constraints posed by the use of self-reporting measures must be borne in mind.

6. CHARACTERISTICS OF WOMEN IN THE SAMPLE

Previous studies have demonstrated that factors such as educational level, marital status, ethnicity, language skills and other demographic characteristics may affect women's socio-economic development. In this section, we summarize general characteristics of the sample in Bolivia and identify differences between groups (control and experimental), locations (urban and rural) and by NGOs with whom the women were affiliated. All the characteristics or "control" variables selected to describe the sample provide important background information about the women in the sample. In the final section of this paper we present the overall impact of these characteristics on our socio-economic indicators over a three-year period. We also conduct an analysis of disassociation of these control variables from our indicators in order to obtain the real impact of basic literacy and adult education programs on socio-economic development.

All women in the study resided either in the department of Cochabamba or in La Paz. At baseline, women's ages ranged from 15 to 45 years of age. Women in the experimental group were two years older, on average, than women in the control group (29.9 compared to 27.6). Women in the experimental group attended programs provided by one of the NGOs described in Section 3. An overall 44.6% reduction in sample size occurred over a three-year-period. By the end of year three, the sample size was reduced to 941 (717 in the experimental group and 224 in the control group).

6.1 Language

Spanish is the official language in Bolivia. However, more than five indigenous languages and 32 dialects are spoken throughout the country. Aymara and Quechua are the most representative indigenous languages in Bolivia and the most common among women in the study.

Table 6-1 shows that most women in the sample were bilingual and spoke either Spanish/Aymara (56.1%) or Spanish/Quechua (12.3%) at home.

Table 6-1: Language Skills by Group, Location and NGO

	Languages Spoken						
	Spanish %	**Aymara %**	**Quechua %**	**Spanish Aymara %**	**Spanish Quechua %**	**Spanish Aymara Quechua %**	**Others[a] %**
By Group							
Control	13.8	6.7	6.3	58.9	6.7	5.4	0.8
Rural	3.1	14.6	14.6	40.6	13.5	10.4	0.0
Urban	21.9	0.8	0.0	72.7	1.6	1.6	1.6
Experimental	14.1	13.5	0.4	55.2	14.1	2.1	0.4
Rural[b]	3.4	32.9	0.7	43.5	18.5	2.8	0.3
Urban[c]	21.9	0.2	0.2	63.3	11.1	2.9	0.7
By NGO							
Gregoria Apaza	25.0	0.0	0.0	66.7	5.0	2.8	0.6
Pro Mujer	20.3	0.0	0.0	75.1	1.0	3.0	1.0
PLAN	0.7	54.4	0.0	44.9	0.0	0.0	0.0
CRECER	11.8	2.1	2.1	18.8	62.5	2.8	0.7
NGO Partnership							
PLAN/CRECER	0.0	33.3	0.0	66.7	0.0	0.0	0.0
Total %	14.2	11.9	1.8	56.1	12.3	2.9	0.6
Total n	134	112	17	528	116	27	6

[a] Includes combination Aymara-Quechua, Aymara-other language.

[b] Includes PLAN/CRECER and PLAN International participants, all of whom were in rural areas, and the CRECER participants who were in rural areas.

[c] Includes Gregoria Apaza and Pro Mujer participants, all of whom were in urban areas, and the CRECER participants who were in urban and semi-urban areas.

Most bilingual and Spanish speakers in the control and experimental groups were concentrated in urban areas. Most women in rural areas could speak only one of the two major indigenous languages. In the experimental group, urban NGOs such as Gregoria Apaza and Pro Mujer had the highest percentage of Spanish speakers (25.0% and 20.3%, respectively) and bilinguals, Spanish/Aymara, (66.7% and 75.1%) in the sample. PLAN International and PLAN/CRECER, which work in rural areas, also had many bilingual speakers (44.9% and 66.7%), as well as the highest percentage of monolingual Aymara and Quechua speakers. CRECER, an NGO that works in rural and urban areas, had a large percentage of bilingual and Spanish speaking women. Very few women in the sample (2.9%) spoke three languages (Spanish/Aymara/Quechua).

6.2 Education

Women's education in Bolivia has made important advances in the last decade. The illiteracy rate has dramatically decreased and the overall school attendance rate has increased substantially. However, a great disparity still exists in educational level and literacy skills between rural and urban locations and between indigenous, monolingual populations and Spanish speakers (Lazarte and Lanza, 2000).

Table 6-2 shows no significant differences between the experimental and the control group on their educational level. However, a large difference existed between urban and rural women on their level of education. Most women in rural areas had either primary education or no education at all. More than 80% of women in urban areas had either primary or secondary education.

Table 6-2: Women's Educational Background by Group and Location Over Three Years

Educational Level	Experimental (%)			Control (%)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Rural						
No Education	33.6	21.3	18.2	37.5	17.7	10.4
Primary Education	42.8	55.6	56.0	36.5	56.3	66.7
Secondary Education	22.6	22.0	25.1	24.0	26.0	20.8
Post Secondary Education	1.0	1.0	0.7	2.1	0.0	2.1
Urban						
No Education	9.6	4.0	4.5	10.2	3.9	4.7
Primary education	32.9	37.6	36.7	32.8	40.6	41.4
Secondary education	53.6	53.9	52.5	48.4	46.1	42.2
Post secondary education	3.8	4.5	6.4	8.6	9.4	11.7
Total n	717	709	716	224	224	224

Furthermore, women in urban areas were almost eight times more likely to obtain post-secondary education than women in rural areas. Overall, the proportion of women in the rural and urban experimental groups with no education decreased over the three-year period (by 15.4 and 5.1 percentage points, respectively). Rural and urban women in the control group showed a similar trend (with decreases of 27.1 and 5.5 percentage points, respectively).

Table 6-3 shows that monolingual Spanish-speaking women were much more likely to be educated than women in other language groups. Most Spanish speakers had a secondary level of education (71.6%). Additionally, the group had the highest percentage of women with higher education (11.9%). The second most educated groups were bilingual and trilingual women. Aymara-only and Quechua-only speakers represented the highest percentage of women with no education (48.2% and 52.9%, respectively).

Table 6-3: Language Skills and Educational Background at Baseline

	Educational Level (%)				
Language	No Education	Primary (1-5)	Secondary (6-12)	Higher Education	Total n
Only Spanish	3.7	12.7	71.6	11.9	134
Only Aymara	48.2	39.3	12.7	0.0	112
Only Quechua	52.9	41.2	5.9	0.0	17
Bilingual	17.5	40.8	39.2	2.5	650
Trilingual	23.1	30.8	46.2	0.0	26
Total	20.0	36.3	40.3	3.4	939

6.3 Marital Status

Table 6-4 shows that the majority of the women in both the control and the experimental group were married or in a consensual union during the three years under examination in the GWE-PRA study. The highest percentage of married women was in rural areas.

Table 6-4: Percentage of Women Who Are Married or in a Consensual Union by Group, Location, and NGO

	Married (%)			Change in Percentage Points			
	Year 1	Year 2	Year 3	Year 1-2	Year 2-3	Year 1-3	n
By Group:							
Control	64.7	66.1	67.0	**1.4**	**0.9**	**2.3**	224
Rural	67.7	71.9	72.9	**4.2**	**1.0**	**5.2**	96
Urban	62.5	61.8	62.5	**-0.7**	**0.7**	**0.0**	128
Experimental	74.8	74.8	76.8	**0.0**	**2.0**	**2.0**	717
Rural	80.5	80.7	84.3	**0.2**	**3.6**	**3.8**	292
Urban[b]	70.8	70.7	71.3	**0.1**	**0.6**	**0.5**	425
By NGO:							
Gregoria Apaza	53.9	57.2	59.4	**3.3**	**2.2**	**5.5**	180
Pro Mujer	83.2	81.3	80.2	**-1.9**	**1.1**	**-3.0**	197
PLAN	84.6	86.8	88.3	**2.2**	**1.5**	**3.7**	136
CRECER	79.9	82.0	80.6	**2.1**	**-1.4**	**0.7**	144
NGO Partnership							
PLAN/CRECER	75.0	80.0	83.3	**4.2**	**3.3**	**8.3**	60
Total	72.4	73.9	74.5				941

[a] Includes PLAN/CRECER and PLAN International participants, all of whom were in rural areas, and the CRECER participants who were in rural areas.

[b]Includes Gregoria Apaza and Pro Mujer participants, all of whom were in urban areas, and the CRECER participants who were in urban and semi-urban areas.

Marriages/consensual unions increased in all locations and groups over the duration of the study (72.4%, 73.9%, and 74.5%, respectively). Data show a smaller percentage increase in marriages or consensual unions among women in the experimental group. Among the NGOs, the largest percentage increase was in PLAN/CRECER, a partnership that works in rural areas (8.3 percentage points). Pro Mujer, an urban NGO, had a decrease in the percentage of women who entered marriage or a consensual unions (3.0 percentage points).

In examining the overall socio-economic status of the women, a composite measure was created to rank the status of each woman on a common scale. The SES measure included household characteristics, economic conditions and material possessions. The SES measure was a 15-point scale based on 15 separate variables, with the score ranging from 0 to 15. This composite was key to measuring women's status. In the three-year period, few differences were expected in indicators

between experimental and control groups. However, even a small positive change could indicate an improvement in women's living conditions. The following variables make up the SES composite:

Living conditions and access to facilities:

1. Indoor toilet
2. Tap water
3. Treatment of drinking water
4. Electricity

Household assets:

5. Own home
6. Have a TV set
7. Have a VCR
8. Have a radio
9. Have a tape recorder
10. Have a telephone
11. Have a refrigerator
12. Have a bicycle
13. Have a motorcycle
14. Have a car

Seek information through literacy:

15. Purchase newspapers

Table 6-5 presents the variation in SES among the women affiliated with various NGO programs and control groups over the three-year period. Both the experimental and control groups had similar SES composite scores and experienced similar increases in SES over the period. However, the gains in the experimental group were higher than the control group from years 1-3 (0.57 and 0.32 percentage points, respectively). Women in all NGO programs showed an increase in composite scores. Women in urban areas had the highest scores on measures of SES, both in the experimental and the control group. For example, women in Gregoria Apaza, Pro Mujer and CRECER programs, as well as women in the urban control group scored above 8.0 in Year 3. By comparison, women in PLAN and PLAN/CRECER programs (both of which are in rural areas) scored 4.44 and 5.02 on the composite measure in Year 3. Women in the rural control group scored 4.74 on composite measures in Year 3.

Table 6-5: Measure of Socio-Economic Status (SES) by Group, Location and NGO

	SES (mean)			Change in Percentage Points			
	Year 1	Year 2	Year 3	Year 1-2	Year 2-3	Year 1-3	n
By Group							
Control	6.50	6.83	6.82	**0.33**	**-0.01**	**0.32**	224
Rural[a]	4.32	4.77	4.74	**0.42**	**0.04**	**0.55**	96
Urban[b]	8.13	8.38	8.38	**0.25**	**0.15**	**0.37**	128
Experimental	6.76	7.08	7.33	**0.32**	**0.25**	**0.57**	717
Rural[a]	5.23	5.25	5.75	**0.05**	**0.51**	**0.56**	292
Urban[b]	7.81	8.34	8.42	**0.48**	**0.09**	**0.57**	425
By NGO							
Gregoria Apaza	7.86	8.44	8.39	**0.46**	**0.04**	**0.50**	180
Pro Mujer	7.63	8.13	8.26	**0.54**	**0.08**	**0.62**	197
PLAN	4.20	3.92	4.44	**-0.21**	**0.70**	**0.49**	136
CRECER	7.74	8.00	8.44	**0.30**	**0.24**	**0.54**	144
NGO Partnership							
PLAN/CRECER	4.08	4.55	5.02	**0.38**	**0.48**	**0.86**	60
Total	6.70	7.02	7.21				941

[a] Includes PLAN/CRECER and PLAN International participants, all of whom were in rural areas, and the CRECER participants who were in rural areas.

[b]Includes Gregoria Apaza and Pro Mujer participants, all of whom were in urban areas, and the CRECER participants who were in urban and semi-urban areas.

6.4 Summary of Characteristics of Respondents

The above profile suggests that women's demographic characteristics changed from 1998-2000. Overall, the percentage of married women increased, the percentage of women with no education decreased and families' SES improved. Additionally, we observed an interesting relationship between language skills and educational background. Most women who spoke one or more indigenous languages did not achieve higher educational levels than monolingual Spanish speakers. Monolingual Spanish speakers clearly had an advantage in the formal school system.

Women's aggregated characteristics showed a difference between the control and experimental groups in their language skills, education, marital status and SES scores over the three-year period. The most significant differences were found between women living in urban and rural areas. Overall, women in rural areas had the lowest educational levels, the highest percentage of marriages and the lowest SES scores.

General characteristics of the sample in Bolivia are used in later chapters to point out important background information that influenced our results on indicators measured over the three-year period. As it will be shown in Section 11, the information presented in this chapter allowed us to conduct an analysis of disassociation of these control variables from our indicators and better assess the real impact of the integrated literacy and basic education programs.

7. FINDINGS

7.1 Literacy Skills

Earlier statistics indicate that the rate of illiteracy for females 15 or older (27.7%) in Bolivia is almost three times higher than the rate of male illiteracy (11.8%) and is one of the highest among Latin American countries (1992). In some departments (areas) of Bolivia, the female illiteracy rate is as high as 50.7% (de Carter, 1997). Female illiteracy rates are associated with high concentrations of indigenous people and poverty. Literacy attainment among women in Bolivia has far-reaching implications for individual, family, community, and national development.

7.1.1 Research Questions

Women's literacy and educational levels are key aspects of social and economic development in Bolivia. In this section, we present findings on women's education and literacy levels over a three-year period. We also present an analysis of women's attitudes and behavior toward their children's education. Three research questions related to women's literacy skills were examined:

1. Did women's literacy skills improve from Year 1-3?

2. Did women's literacy skills differ with respect to their participation or non-participation in the NGO programs?

3. Did women's literacy skills differ with respect to their rural and urban location?

7.1.2 Measures of Women's Literacy

A comprehensive literacy test was not administered to women in the study. Hence, it was necessary to develop proxy measures of women's literacy skills. These measures were designed to determine: 1) the women's perceptions of their own ability to read and write; 2) whether the women could write their names and addresses; and 3) the extent to which they were able to read three sentences on different cards at different levels of difficulty.

Table 7-1 depicts the results of these measures for the experimental and the control group. However, it should be noted that none of the participating NGO programs were "pure" literacy training programs, but rather socially and economically focused training programs, such as a health and reproductive health program, a micro-credit and microenterprise program, a technical skills program and so forth. In fact, unlike the programs in Nepal, **none of the participating programs in Bolivia were a traditional "literacy only" class.**

Table 7-1: Performance on Literacy Skills Assessment by Group

	Experimental Group (%)				Control Group (%)			
	Year 1	**Year 2**	**Year 3**	**Year 1- 3 Change**	**Year 1**	**Year 2**	**Year 3**	**Year 1- 3 Change**
Self Reported Skills								
Do you know how to read and write?	81.2	84.4	85.4	**4.2**	79.5	81.7	84.8	**5.3**
Literacy Skills Measure								
Writing:								
Can write own name	79.5	80.3	89.4	**9.9**	77.7	79.9	87.9	**10.2**
Can write own address	73.6	72.5	77.1	**3.5**	72.8	71.4	76.3	**3.5**
Reading: [a]								
Card 1 mean % words read	74.4	77.0	78.7	**4.3**	71.6	76.4	74.4	**2.8**
Card 2 mean % words read	71.9	75.7	77.5	**5.6**	69.1	75.2	73.0	**3.9**
Card 3 mean % words read	70.7	74.9	76.2	**5.5**	66.8	73.8	71.9	**5.1**
Total n	717	717	717		224	224	224	

[a] Three reading selections were chosen from primary school textbooks. The sentences in cards 1, 2, and 3 were selected from grade 1, 3 and 5 textbooks, respectively.

At the beginning of the GWE-PRA study, most of the women in the sample reported that they knew how to read and write, and the number of women who reported that they had these skills increased from Years 1 to 3 in both the experimental and the control group (by 4.2 and 5.3 percentage points, respectively). Judging from the proxy measure results, a large percentage of women in the study do seem to have basic reading and writing skills. In fact, we found that for the most part, women who reported that they could read and write were able to demonstrate their ability to do so. Data also indicated that women in the experimental group consistently had slightly higher levels of reading and writing skills, across the three years, although both groups improved during the period.

To better understand these results, we examined the information provided by respondents concerning their education level over the three years. As shown in Section 6 (Table 6-2), the proportion of women in the rural and urban experimental groups with no education decreased over the three-year period (by 15.4 and 5.1 percentage points, respectively). The percentage of women in

the control group with no education declined by as much as 25.1 percentage points in rural areas and 5.5 points in urban areas. Hence, it appears that a substantial portion of women in both groups (52.5% in the experimental group and 69.4% in the control group) who reported that they had no education in the baseline year reported attending primary school in Year 3. This may indicate that many women were taking advantage of formal primary school programs specifically designed for out-of-school adults.

A comparison of the results of respondents' performance on the proxy reading and writing measures with their educational status revealed that the vast majority of the women who changed their response to the question concerning the highest level of education they had attended from "no education" to "primary school" also demonstrated improvements in their performance on our proxy assessment measures.

Table 7-2 shows that women in urban areas performed substantially better on all literacy skills measures than women in rural areas. The greatest improvement was for women in rural areas who could write their own name.

Table 7-2: Performance on Literacy Skills Assessment in Urban Areas by Group

	Urban [a] (%)				Rural [b] (%)			
	Year 1	**Year 2**	**Year 3**	**Year 1- 3 Change**	**Year 1**	**Year 2**	**Year 3**	**Year 1- 3 Change**
Self Reported Skills								
Do you know how to read and write?	91.3	95.8	94.0	**2.7**	65.7	66.5	72.7	**7.0**
Literacy Skills Measure								
Writing:								
Can write own name	90.1	91.7	95.7	**5.6**	63.4	63.9	79.6	**16.2**
Can write own address	85.0	86.1	87.3	**2.3**	57.0	52.6	62.1	**5.1**
Reading:								
Card 1 mean % words read	87.0	90.8	89.7	**2.7**	54.7	56.9	60.4	**5.7**
Card 2 mean % words read	85.2	89.5	88.7	**3.5**	51.4	55.8	58.9	**7.5**
Card 3 mean % words read	84.2	88.5	88.0	**3.8**	49.1	54.8	56.9	**7.8**
Total n	553	553	553		388	388	388	

[a] Includes PLAN/CRECER and PLAN participants, all of whom are in rural areas and the CRECER in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas and the CRECER participants in urban and semi-urban areas.

Table 7-3 depicts women's performance on literacy measures by NGO program. Overall, women who participated in NGO programs in rural areas (PLAN/CRECER, PLAN, and CRECER) showed the greatest improvement in the literacy skills measured on the reading items. This is likely because they started with a lower level of literacy and, thus, initial progress is more noticeable. Women who participated in PLAN programs, which serve only rural areas and participants in CRECER programs (two-thirds of whom are located in rural areas), demonstrated the greatest gains on reading measures. CRECER devotes about 20% of its program effort improving participants' reading and writing skills, while only about 5% of PLAN efforts are focused on teaching these skills.

Table 7-3: Performance on Literacy Skills Assessment by NGO

		Self Reported Skills: Do you know how to read and write?	Literacy Skills Measure				
			Writing		Reading		
			Can write:		Mean % of words read in:		
			Name	Address	Card 1	Card 2	Card 3
By Group		**(%)**	**(%)**	**(%)**	**(%)**	**(%)**	**(%)**
Control Rural	Year 1	62.5	60.4	54.2	53.1	50.7	47.9
	Year 2	64.6	62.5	52.1	54.6	55.1	53.5
	Year 3	71.9	77.1	58.3	56.5	55.5	53.9
	Year 1-3 Change	**9.4**	**16.7**	**4.1**	**3.4**	**4.8**	**6.0**
Control Urban	Year 1	92.2	90.6	86.7	85.4	82.9	81.0
	Year 2	94.5	93.0	85.9	92.7	90.2	89.0
	Year 3	94.5	96.1	89.8	87.8	86.1	85.4
	Year 1-3 Change	**2.3**	**5.5**	**3.1**	**2.4**	**3.2**	**4.4**
By NGO:							
Gregoria Apaza	Year 1	98.3	97.8	93.3	95.2	93.8	93.4
	Year 2	100.0	98.9	96.7	98.0	98.0	96.9
	Year 3	99.4	99.4	95.6	97.8	96.9	96.7
	Year 1-3 Change	**1.1**	**1.6**	**2.3**	**2.6**	**3.1**	**3.3**
Pro Mujer	Year 1	85.8	84.3	77.7	82.3	80.1	79.3
	Year 2	93.9	84.8	79.2	84.6	82.8	82.0
	Year 3	89.8	91.9	81.7	83.8	83.3	82.2
	Year 1-3 Change	**4.0**	**7.6**	**4.0**	**1.5**	**3.2**	**2.9**
PLAN	Year 1	59.6	56.6	50.0	45.3	39.9	36.9
	Year 2	58.8	57.4	44.9	46.5	45.0	44.4
	Year 3	64.7	72.1	54.4	53.0	51.7	48.9
	Year 1-3 Change	**5.1**	**15.5**	**4.4**	**7.7**	**11.8**	**12.0**
CRECER	Year 1	80.6	77.8	72.2	73.1	71.2	70.4
	Year 2	84.7	81.3	70.1	77.6	76.8	74.9
	Year 3	84.7	91.7	72.2	80.5	78.0	76.8
	Year 1-3 Change	**4.1**	**13.9**	**0.0**	**7.4**	**6.8**	**6.4**
NGO Partnership:							
PLAN/CRECER	Yr1	65.0	65.0	58.3	54.8	53.3	51.3
	Yr2	63.3	60.0	46.7	57.3	53.2	54.2
	Yr3	76.7	85.0	70.0	58.6	56.9	55.3
	Yr1-3 Change	**11.7**	**20.0**	**11.7**	**3.8**	**3.6**	**4.0**

Girls' and Women's Education, Policy Research Activity (GWE-PRA) with funding from USAID
World Education, Inc., Harvard Graduate School of Education, Education Development Center, Inc.

It is important to emphasize several points regarding these results. First, none of the NGO programs were “pure” literacy training programs. Their curriculum focused on health, micro-credit and microenterprise and technical skills. Second, participants in these programs were not "typical" literacy program participants–they began the program with much higher levels of literacy skills than one would find in an integrated literacy program.

Participants in PLAN/CRECER programs (all in rural areas) showed greatest improvement on the measure of their ability to write their names and their addresses. Women in PLAN and PLAN/CRECER also made substantial gains on this skill. The number of participants in Pro Mujer (an urban program) who said they could write their names also increased. However, Pro Mujer participants showed little progress in their reading ability. This is not surprising, since, unlike the other NGOs, Pro Mujer does not offer programs specifically focusing on teaching reading and writing.

As one might expect, participants in Gregoria Apaza programs (the group that scored the highest among all the NGOs on the reading and writing measures) showed the least improvement. We, however, must point out that for some NGOs, “saturation effect” was observed. For example, almost all women in Gregoria Apaza were considered literate in Year 1. Any “small increase” in percentage would bring the group to a 100% literacy rate. More than 98% of the Gregoria Apaza participants reported that they could read and write during the first year of the study.

7.2 Women's Participation in Children’s Education

Research indicates that parents’ socio-economic status and mothers' level of education, in particular, affect their children’s opportunities to go to school and their achievement once they are in school. This analysis examined women's attitudes and practices regarding their children’s education and identified changes occurring during the three-year period.

7.2.1 Research Questions

1. Did women’s attitudes toward their children’s education change positively?

2. Did the integrated literacy and basic education programs have a significant impact on the changes?

3. What other factors help explain observable changes in women's literacy skills over time?

In the experimental group 41% of the women had school-age sons, 42% had school-age daughters in Year 1 (see Table 7-4). These figures increased by Year 3 by 6.5 and 5.5 percentage points, respectively. School attendance[10] was very high across all three years in both groups and for both girls and boys.

Table 7-4: Percentage of Women with School-age Children in School by Group

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Change	Year 1	Year 2	Year 3	Year 1-3 Change
School Age Children								
% with at least 1 school-age boy	40.9	41.6	47.4	6.5	40.6	38.8	43.8	3.1
% with at least 1 school-age girl	41.8	42.4	47.3	5.5	33.5	35.3	38.4	4.9
% with at least 1 school age child	55.9	60.3	63.0	7.1	47.8	49.1	53.1	5.3
Total n (women in sample)	717	717	717		224	224	224	
Children in School								
Boys:								
% women with boy(s) in school	95.9	95.6	97.1	1.2	95.6	94.3	98.0	2.4
Avg. % of boys in school	93.6	94.0	95.2	1.6	94.2	92.1	96.1	1.9
n (women with school-age boys)	293	298	340		91	87	98	
Girls:								
% women with girl(s) in school	97.3	96.4	94.1	-3.2	98.7	98.7	97.7	-1.0
Avg. % of girls in school	94.4	96.2	91.2	-3.2	93.0	95.3	92.7	-0.3
n (women with school-age girls)	300	304	339		75	79	86	
Children:								
% women with children in school	98.8	97.9	98.2	-0.6	98.1	99.1	99.2	1.1
Avg. % of children in school	94.1	94.5	93.9	-0.2	93.1	92.7	94.3	1.2
n (women with school-age children)	401	432	452		107	110	119	

Of the experimental group women who had school-age sons, close to 96% had at least one son who was attending school in Year 1. This percentage increased by 1.2 percentage points by Year 3. The average percent of boys in the household attending school also increased from Year 1 to Year 3 for this group (by 1.6 percentage points).[11] Of the women in this group who had school-age daughters, about 97.3% had at least one daughter who was attending school in Year 1. By Year 3, this percentage had dropped by 3.2 percentage points. Similarly, the average percent of girls in the household declined from 94.4% to 91.1% during that period.

Similar patterns were also observed for the control group, with slightly greater declines in school attendance for girls than for boys. An increase in overall national poverty levels might explain this decline. Additionally, a greater number of girls had entered into the school-age group by Year 3. In difficult economic times, it is not always possible for parents to send all eligible children in the household to school. When faced with economic pressures, parents typically decide that it is a better investment to educate boys than girls. In light of the high level of school attendance among

[10] School attendance was self-reported by the women in response to a question as to whether or not each child was currently attending school. No information was collected concerning children's actual attendance.

[11] This was calculated by dividing the number of school-age boys in the household by the number of boys in the household who were attending school. The same procedure was used to calculate the average percent of girls in the household attending school.

the children of the study respondents in the baseline, it was not possible to accurately gauge the impact of participation in the integrated literacy and basic education programs on their children's attendance.

When the average percent of children in the household attending school was examined by NGO (see Table 7-5), declines in girls' attendance were found for participants in four of the NGO programs, as well as for the urban control group.

Table 7-5: Percentage of Women with School-age Children in School by NGO

	Average % of Boys in School[a]				Average % of Girls in School[b]				Average % of Children in School[c]			
	Yr. 1	Yr. 2	Yr. 3	Yr. 1-3 Chng	Yr. 1	Yr. 2	Yr. 3	Yr. 1-3 Chng	Yr. 1	Yr. 2	Yr. 3	Yr. 1-3 Chng
By Group												
Control Rural	95.7	90.5	93.4	**-2.3**	88.2	93.0	93.5	**5.3**	91.7	90.8	92.2	**0.5**
Control Urban	93.1	93.3	98.2	**5.1**	97.0	97.4	92.0	**-5.0**	94.2	94.1	95.9	**1.7**
By NGO												
Gregoria Apaza	94.4	97.0	97.5	**3.1**	97.5	97.4	94.2	**-3.3**	96.6	96.0	95.5	**-1.1**
Pro Mujer	90.4	93.4	95.1	**4.7**	98.3	96.5	94.0	**-4.3**	95.3	95.1	94.8	**-0.5**
PLAN	96.7	94.9	96.6	**-0.1**	90.3	97.0	93.1	**2.8**	93.2	93.5	95.7	**2.5**
CRECER	90.8	90.6	92.2	**1.4**	93.5	94.2	90.0	**-3.5**	92.0	92.4	92.3	
NGO Partnership												
PLAN/CRECER	99.2	96.8	96.2	**-3.0**	90.9	96.8	75.5	**-15.4**	93.8	97.7	88.1	**-5.7**
Total n (women with school-age children).	293	298	340		300	304	339		401	432	452	

[a] Percentages for each year are based on the total number of women in each group with school-age *boys*.

[b] Percentages for each year are based on the total number of women in each group with school-age *girls*.

[c] Percentages for each year are based on the total number of women in each group with school-age *children*.

The largest decrease was among participants in PLAN/CRECER programs (15.4 percentage points). The average percent of boys in the household attending school also declined by 3.0 percentage points. An increase in overall national poverty levels might explain this decline.

To determine the kind of education-related help mothers offered their children, women were asked about four types of assistance: helping with homework, reading to children, playing with children, and telling stories. Results indicated that homework assistance provided by women varied greatly according to the child's education level. About 84.3% of women whose children were in school in the experimental group and 76.2% in the control group stated that they helped their children with primary level homework. No major changes were found for either the experimental or the control group in the homework assistance provided to primary level children.

The level of assistance dropped when the children reached secondary school. Several factors might help to explain this. First, by the time they reached secondary school, more children are able to work independently. Second, most women in the sample had not completed six years of education themselves. Additionally, information about school-age children of women in the study was not

provided by grade level. Thus, it is possible that the drop in assistance at that level may be an indication that fewer women had children in secondary school. Nevertheless, changes occurred between Year 1 and Year 3 in the proportion of women with children in school who helped their children with secondary-level homework for the experimental group but not for the control group. As shown on Table 7-6, the percentage of women in the experimental group who helped with secondary-level homework increased from 14.1% to 21.6% during the period.

Table 7-6: Ways in Which Women Help with Children's Education

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Change	Year 1	Year 2	Year 3	Year 1-3 Change
Women who help children with:								
Primary-level homework	84.3	91.5	89.4	**5.1**	76.2	86.2	88.1	**11.9**
Secondary-level homework	14.1	22.5	21.6	**7.5**	17.1	23.9	19.5	**2.4**
Any level homework	85.1	93.4	91.9	**6.8**	79.0	89.0	90.7	**11.7**
n (women with school-age children in school)	396	423	444		105	109	118	
Ways in which women help their children under age 5:								
Reading	20.8	19.9	17.8	**-3.0**	13.0	9.8	5.0	**-8.0**
Telling stories	33.5	39.8	34.0	**0.5**	34.0	27.5	17.0	**-17.0**
Playing	92.1	89.8	91.4	**-0.7**	86.0	87.3	86.0	**0.0**
n (women with children under age 5)	394	382	371		100	102	100	

[a] Percentages for each year are based on the total number of women in each group with children (6-18) in school.
[b] Percentages for each year are based on the total number of women in each group with children under age 5.

The lower portion of the preceding table depicts the kinds of activities in which women with children younger than six years of age were engaged. In both the experimental and control group, the overall percentage of mothers who played with their children was higher than the percentage of mothers who told them stories or read to them. Cultural factors might explain the small percentage of women who read to their children. For example, indigenous Bolivian culture is based on oral tradition. Most women do not read to their children because telling stories and playing with them is considered more important than reading a book. Additionally, Bolivian children's literature is costly, is not always accessible in indigenous languages, and is not easily available to women from rural areas and women with low SES. The number of women reading to their children declined for both the experimental and the control group. However, the decrease was greater for the control group (8.0 percentage points compared to 3.0 percentage points), although NGOs did not really emphasize the importance of reading to children.

As shown on Table 7-7, women's level of participation in several children's educational activities varied greatly by area and NGO. Assistance with homework increased for most of the NGO participants. The participants in PLAN showed the highest increase in the help they provided with their children's homework (15.5 percentage points). Additionally, members of the rural control group also increased their involvement in homework assistance by 8.5 percentage points. Fewer mothers in rural areas than in urban areas (in both the experimental and the control group) read to their children, and the number of mothers who read to children dropped slightly for both groups during the period.

Table 7-7: Mothers' Involvement in Their Children's Educational Activities by Area and NGO

	Help Children with Homework (%)			Reading to Children Age 5 or Under (%)			Telling Stories / Playing with Children Age 5 or Under (%)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
By Group									
Control									
Rural	71.7	85.1	90.2	3.8	8.9	3.6	81.1	85.7	81.8
Urban	84.7	91.9	91.0	23.4	10.9	6.7	93.6	91.3	91.1
Experimental									
Rural[a]	80.1	91.2	91.3	13.6	9.7	12.3	89.3	88.6	88.3
Urban[b]	90.0	95.4	92.4	26.7	28.5	22.5	96.8	92.3	96.0
By NGO									
Gregoria Apaza	93.1	100.0	97.3	35.7	37.3	29.5	98.6	97.0	96.7
Pro Mujer	90.5	96.8	90.2	20.2	21.2	17.9	96.0	90.7	94.9
PLAN	74.2	87.8	90.7	1.2	2.4	6.2	86.0	84.3	85.2
CRECER	85.7	87.5	92.1	35.0	30.3	26.7	95.0	92.1	97.3
NGO Partnership									
PLAN/CRECER	81.6	100.0	90.0	8.8	2.6	5.4	88.2	89.5	83.8
Total n	450	519	552	496	482	469	494	482	469

[a] Includes PLAN/CRECER and PLAN participants, all of whom are in rural areas and the CRECER participants who are in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas and the CRECER participants who are in urban and semi-urban areas.

With regard to assistance provided to young children, 26.7% of urban mothers in the sample compared to 13.6% of those in rural areas read to their children in Year 1. These figures declined in Year 3 for both groups. Much the same pattern was observed in the control group. However, fewer women in both the rural and urban areas of the control group read to their children than in the experimental group.

Among the NGOs, PLAN and PLAN/CRECER had the lowest percentage of mothers who read to their children, due primarily to the lower level of literacy among these participants (see Table 7-3 in Section 7.1.2). Two of the NGOs, PLAN and Pro Mujer, have special programs that encourage

educational activities for mothers and their young children. The number of women reading to their children increased during the period for participants in PLAN programs (in rural areas) but not for those in Pro Mujer programs, which are in urban areas.

Mothers in the sample were asked how often they visited their children's school and how often they held discussions with the teacher about their children's academic achievement.

Table 7-8 shows small changes in the percentage of mothers who visited their children's schools or talked to teachers over the three-year period. However, women in the control group had a higher increase in visits to school to discuss their daughters' performance than women in other groups. It is important to note that none of the NGO programs emphasized participation in their children's education programs. Furthermore, in most Bolivian schools, mothers do not normally participate in their children's education in a formal way. For example, few mothers attend monthly or bi-monthly meetings or have regular interaction with the school staff. This is particularly true for the mothers of older children. However, mothers typically might ask about their children's progress during the year during "mothers' day" visits when they came to schools to see what their children have prepared for them.

Table 7-8: Percentage of Mothers Who Visited Their Children's School and Discussed Their Performance with Teachers[a]

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Change	Year 1	Year 2	Year 3	Year 1-3 Change
Visit Child's School								
Boys[b]	93.2	94.4	93.0	**-0.2**	93.1	91.5	93.8	**0.7**
Girls[c]	94.5	92.5	95.6	**1.1**	91.9	92.3	95.2	**3.3**
Discuss Child's Performance								
Boys[b]	87.5	88.8	86.1	**-1.4**	87.4	86.6	88.5	**1.1**
Girls[c]	88.4	88.4	86.5	**-1.9**	85.1	89.7	92.9	**7.8**

[a] Appendix 1 (Table A7-8) shows the number of cases on which percentages for each year are based.

[b] Percentages for each year are based on the total number of women in each group with children (6-18) in school.

[c] Percentages for each year are based on the total number of women in each group with children under age 5.

7.2.2 Other Factors That Influence Mothers' Activities with Children

In addition to assessing the impact of the NGO programs' on the mother's participation in their children's education, we also examined the effects that the mother's educational level and SES might affect their children's education. Our findings were consistent with previous studies that demonstrate a high correlation between maternal education and mother's involvement in their children's education.

Table 7-9 shows the participation of the women in the study in their children's education over the three-year period. In both the experimental and the control group more educated women had greater involvement with their children's educational activities than less educated women. They were more likely to help their children with homework, to visit their child's school and to read to them, although, as mentioned above, reading is not a common educational activity in Bolivia, even among well educated mothers.

As mentioned earlier, during the three-year period that the GWE-PRA programs were underway, a number of respondents in both the control group and the experimental group continued their formal education.[12] In each year the number of women reporting their highest level of education as "no education" decreased, while the number of women reporting primary increased. This indicates that a substantial number of women in the study may have entered primary school .

Table 7-9: Mothers' Formal Education Level by Participation in Their Children's Educational Activities[a]

Highest Education Level Attended	Help with Homework[b] (%)			School Visit[b] (%)			Reading to Children[c] (%)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Experimental Group									
No Education	69.2	92.5	81.0	88.8	91.0	94.8	6.8	2.8	3.6
Primary School	87.8	91.9	90.9	97.2	93.2	95.3	15.6	11.5	11.6
Secondary School	96.1	98.3	97.2	97.1	98.3	98.6	32.7	33.1	25.0
Higher Ed.	100.0	100.0	100.0	100.0	100.0	100.0	28.6	60.0	60.0
Control Group									
No Education	59.4	62.5	78.6	84.4	62.5	78.6	0.0	0.0	11.1
Primary School	85.4	92.5	89.7	95.8	97.0	98.7	7.5	9.3	0.0
Secondary School	92.0	95.8	100.0	100.0	100.0	95.7	35.0	11.1	16.0
Higher Ed.	-	100.0	100.0	-	100.0	100.0	42.9	40.0	-

[a] Appendix 1 (Table A7-9) shows the number of cases on which percentages for each year are based.

[b] Percentages for each year are based on the total number of women in each group with children (6-18) in school.

[c] Percentages for each year are based on the total number of women in each group with children under age 5.

This table shows a positive relationship between maternal education and their participation in their children's education. Overall, the women with the lowest levels of education in both the experimental and the control group participated the least in their children's education. However, the group with the least education had the greatest increase in the number of mothers reporting that they

[12] In order to retain the experimental/control group design women in both the experimental group who joined nonformal training programs were removed from the study. However, women who continued or rejoined classes in formal education remained in the study.

provided helped with homework over the three-year period. This was the case for both the experimental and the control group. This finding may, in part, be attributable to the number of women who continued with their formal education. However, additional information is needed about the type of assistance that these mothers provided.

The proportion of women in the experimental group (across all education levels) who said that they helped their children with homework increased by 11.8 percentage points. Experimental group women who visited schools increased by 6.0 percentage points. The proportion of women in the experimental group reporting that they read to their children, however, decreased over the period.

Of the few women with higher education, all indicated that they helped their children with homework in all three years. However, like the women with lower levels of education, few women, even at this level, read to their children. Overall, across all levels of education and for both groups, a general trend of declining interest in reading to their children was observed during the period.[13] We hypothesize that women may see formal education as a route to improved opportunities for their children. Further it is likely that women with higher levels of education place more importance on their children's education, and hence make greater efforts to participate in their children's education through actions such as helping with homework, or visiting their children's school. However, it appears that, across education levels, women do not realize the value of reading to children who are not yet in school or that they are not confident enough in their own ability to do so.

[13] The women in the control group with no education and the women in the experimental group with higher education are exceptions to this pattern. However, the sample size for these two groups is too small to draw any meaningful conclusions.

Table 7-10 indicates that, although a high percentage of women from all SES groups (in both the experimental and the control group) helped their children with homework and visited their schools, a much smaller proportion of women read to their children under the age of five, particularly in low SES groups.

Table 7-10: Percentage of Women Who Participated in Children's Educational Activities by Socio-Economic Quartile[a]

SES Level	Help Homework[b] (%)			School Visit[b] (%)			Reading to Children[c] (%)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Experimental Group									
Lowest Level	71.8	86.1	87.9	87.3	86.1	93.9	4.8	2.7	9.3
Second Level	84.3	94.4	93.4	93.1	91.0	97.5	15.4	16.1	12.0
Third Level	83.1	92.7	95.5	96.6	98.2	98.5	22.1	25.5	21.1
Highest Level	94.0	97.3	94.4	99.3	98.6	97.8	36.9	29.4	43.8
Control Group									
Lowest Level	61.8	82.9	88.7	85.3	82.9	94.3	0.0	8.2	0.0
Second Level	92.6	95.8	87.5	96.3	100.0	96.9	12.0	8.0	8.0
Third Level	85.7	91.7	100.0	95.2	95.8	100.0	15.4	5.9	7.7
Highest Level	82.6	90.0	94.1	100.0	100.0	94.1	50.0	27.3	20.0

[a] Appendix 1 (Table A7-10) shows the number of cases on which percentages for each year are based.

[b] Percentages for each year are based on the total number of women in each group with children (6-18) in school.

[c] Percentages for each year are based on the total number of women in each group with children under age 5.

The lowest SES quartile showed the highest percentage point increase in the proportion of mothers who helped their children with homework over the three-year period. For example, in quartile of women with the lowest SES in the experimental group in Year 1, 71.8% of the women helped their children with homework and 87.3% visited schools, while only 4.8% read to their children. During the period, the percentage of women in this group who participated in each of these activities increased by 16.1, 6.6 and 4.5 percentage points, respectively.

Mothers in the second, third, and highest quartiles showed a more modest increase, probably because they started with a high percentage of women who were participating at baseline. In Year 3, mothers in the experimental group with higher SES were more likely to read to their young children (43.8%) than mothers from the lowest SES group (9.3%). Likewise, school visits were more common among women in the highest SES group, even though the differences between the lowest and highest SES quartiles were not as dramatic (3.9 percentage points in Year 3).

A similar pattern was evidenced in the control group. For example, among the women with the lowest SES, 61.8% reported helping with homework, 85.3% reported visiting schools and none of the women said they read to young children in Year 1. Increases of 26.9 percentage points for women helping with homework and 9.0 percentage points for women visiting schools occurred

during the three-year period. Although a few women at the lowest level in the control group said they read to their children under six years of age in Year 2, by Year 3, none of the women reported doing so. At the highest level of SES, 8 of the 16 women said they read to their children in Year 1. By the third year, 2 out the 10 women in the highest quartile who had children under age six read to their children.

In summary, by examining the data on maternal education and SES, it became clear that, overall, mothers with low SES and low educational levels were less likely to read to their children, to help them with homework or to visit their schools than women with high SES and more education. With increases in education and SES among mothers, we observed an increase in the percentage who participated in educational activities with their children, particularly reading. In fact, in the experimental group the difference between mothers with high SES who read to their children and mothers with low SES was 34.5 percentage points in Year 3. In the control group, the number of mothers reading to their children (0 at the lowest level and 2 out of 10 at the highest level) was smaller.

7.2.3 Summary of Women's Participation in Children's Education

Most women in both the experimental and the control group had basic literacy skills when they began the NGO program. At baseline, 81% of all women in the sample reported being able to read and write, 79% demonstrated the ability to write their name and 71% could write a complete home address. On average, they could read about 70% of the words on a card containing words from a fifth grade textbook. Women in urban areas performed dramatically better on all literacy measures than women in rural areas.

While women in both the experimental and the control group reported improvements in their literacy skills, during the three-year period, women in the experimental group showed higher gains on reading measures than that of the control group. However, their gains on writing skills were lower than the control group on writing measures.

A high proportion of participants' children were already attending school in the baseline year. The data suggest that NGO participation had a positive impact on mothers' involvement in their children's secondary-level homework. However, few women in either group read to their young children (under age 5) either at the beginning of the study or in Year 3.

In addition to NGO participation, the educational level and SES characteristics of mothers also have an impact on children's education. We found that mothers who had a secondary or higher level of education were more involved in their children's education than mothers with no education.

These findings indicate that the inclusion of curriculum items that allow women to practice reading and writing leads to improvement in those skills. This in turn, increases women's ability to provide assistance to their children in school, particularly those in higher grades. However, for NGO programs to have a significant impact on children's education, it is necessary to include specific activities that emphasize the importance of reading to children at an early age and reinforce the value of educating children, particularly girls.

7.3 Health Knowledge and Practice

Health conditions and services in Bolivia are inadequate. One-third of the Bolivian population is without access to health services, and 42% lack sanitary facilities. Roughly three-fifths of the population have access to safe drinking water, which may, in part, account for the high levels of child mortality. Both infant mortality and under-five mortality rates are high in Bolivia, with 71 and 102 deaths per 1,000 live births, respectively. Diarrheal illness is a serious threat to the lives of Bolivian children and accounts for more than one-third of all deaths in children under the age of five (UNICEF, 1994).

Most health-care professionals and educators are convinced that increased women's health knowledge is likely to result in improvements in their own health-seeking behavior and that of their children. Furthermore, improved women's health practices lead to long-term social and economic benefits for women´s families and for society. Most of the integrated literacy and basic education programs offered by NGOs involved with the GWE-PRA/Bolivia have a health education component as part of their curriculum. This section examines the changes in health knowledge and health behavior of the respondents over a three-year-period.

7.3.1 Research Questions

In this section, we examine three health areas: family health, reproductive health, and knowledge of sexually transmitted infections. First, we summarize three-year data on women's health knowledge and practice and present the changes in health indicators over the period. Second, we describe some of the factors that might have led to changes in women's health practices.[14] The research questions which address the respondents' health knowledge and practice are:

1. Did women's health knowledge and practice improve over a three-year period?

2. Did the integrated literacy and basic education programs have an impact on women's health knowledge and practice?

3. What additional factors contributed to the changes in health knowledge and practice observed from 1998-2000?

7.3.2 Women's and Children's General Health

Developing measures to assess health-care behavior is a complicated task. There is no universal standardized definition of what is meant by "sickness." Additionally, measures of women's health-seeking behavior can be misleading if not presented within the proper context, because illness is not a constant occurrence or it is defined differently. For example, a woman would not have sought medical treatment for herself or her children if no one were sick or regarded as being sick in Bolivia during the period under consideration. Hence, it was necessary to measure both the actual behavior of those who had been ill themselves or whose family members had experienced certain symptoms,

[14] Questions about women's health practices are reported on the questionnaire, but women's responses were not verified.

as well as to devise proxy measures to ascertain how women would hypothetically behave if they or their children experienced these symptoms.

Although there is a government-sponsored health system in many communities, it is usually of poor quality. Women were asked to describe how they would react to fairly common medical problems, including severe flu with fever, a severe stomachache, and a broken arm. Their responses are presented in the discussion that follows.

As Table 7-11 indicates, women were more likely to say they would seek medical help if they broke an arm than if they had the flu with fever or a stomachache, two conditions that are more likely to be successfully treated at home. However, the experimental group women had overall gains in seeking medical help for flu with fever and severe stomachache (4.1 and 6.1 percentage points, respectively). The percentage of women in the control group seeking help for the same medical conditions decreased by 3.6 and 1.4 percentage points, respectively.

Table 7-11: Percentage of Women Who Would Seek Medical Help for Themselves [a]

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3	Year 1	Year 2	Year 3	Year 1-3
Seek Medical Help (clinic, doctor, NGO)								
Flu with fever	54.9	53.1	59.0	4.1	52.0	44.2	48.4	-3.6
Severe stomachache	59.0	56.3	65.1	6.1	54.5	48.9	53.1	-1.4
Broken arm	92.7	88.0	91.8	-0.9	88.1	87.0	90.7	2.6
Self -treatment (drugstore, stay home)								
Flu with fever	45.1	46.9	41.0	-4.1	48.0	55.8	51.6	3.6
Severe stomachache	41.0	43.7	34.9	-6.1	45.5	51.1	46.9	1.4
Broken arm	7.3	12.0	8.2	0.9	11.9	13.0	8.8	-3.1

[a] Appendix 1(Table A7-11) shows the number of cases on which percentages for each year are based.

The percentage of women in the experimental group seeking medical help for a broken arm decreased by 0.9 percentage points, while the percentage of women in the control group seeking help increased over time by 2.6 percentage points. It is important to note that Bolivia's deteriorating economic situation between 1998-2000 might have contributed to the decrease in experimental and control group women who would seek medical help in Year 2. Bolivia's GDP per capita growth rate dropped by 50% between 1998-2000 (World Bank, 2000). Poor economic conditions generated a high unemployment rate, lower national income, and other economic problems that may have affected some women's ability to afford health care. If so, women in the experimental group seem to have a higher overall consciousness of the need for medical attention or the ability to seek it during the economic downturn than women in the control group.

Table 7-12 shows that most women in the experimental and the control group stated that they would seek medical help for their children if they thought they were sick. The percentage of experimental group women who said that they would seek medical help for their children increased by 2.5 percentage points over the three-year period. The control group mothers showed a smaller positive change over the period (1.9 percentage points). In Year 2, control group mothers showed a decrease in seeking medical help (4.0 percentage points). It is possible that control group mothers were more vulnerable to the Bolivian economic crisis and more likely to rely on self-medication to treat their children. Additionally, these results indicate that NGO programs might have a positive effect on increasing mothers' awareness about the need to seek medical help when children are ill.

Table 7-12: Percentage of Women Who Would Seek Medical Help if Their Children Were Sick

	Experimental (%)				Control (%)			
	Year 1	**Year 2**	**Year 3**	**Year 1-3**	**Year 1**	**Year 2**	**Year 3**	**Year 1-3**
Children Under Age 5								
Seek medical help (clinic, doctor, NGO)	81.9	82.6	84.4	**2.5**	79.8	75.8	81.7	**1.9**
Self medical help (drugstore, stay home)	18.1	17.4	15.6	**-2.5**	20.2	24.2	18.3	**-1.9**
n (women with children under age 5)	392	345	314		99	91	82	

To better understand why some women would not seek medical help were they to have a medical problem, we asked them to select from among a list of reasons why they would not do so.

Table 7-13 indicates that affordability and "other reasons" (such as lack of time, lack of knowledge about where to take a sick child) were mothers' most common justifications for not seeking health care for their children. The percentage of mothers in the experimental group who could not afford health care increased by 23.4 percentage points from Year 1 to Year 2 and then decreased by 19.5 percentage points in Year 3. The number of women in the control group who mentioned cost as a reason decreased over the period (by 19.2 percentage points). Statistics shown for women in the experimental group who did not seek help support the explanation of an economic downturn effect described earlier. But, statistics for the control group do not seem to support this explanation. However, control group percentages could be less reliable due to smaller number of cases.

Table 7-13: Women's Reasons for Being Unable to Seek Medical Help for Their Children.

	Experimental (%)				Control (%)			
	Year 1	Year 2	Year 3	Year 1-3 Change	Year 1	Year 2	Year 3	Year 1-3 Change
Why wouldn't you take your child for medical treatment?								
No use	9.5	13.3	27.5	**18.0**	9.1	13.0	23.5	**14.4**
Bad services	12.2	6.7	11.8	**-0.4**	3.6	8.7	17.6	**4.0**
I can't afford it	21.6	45.0	25.5	**3.9**	54.5	43.5	35.3	**-19.2**
Too far	21.6	11.7	15.7	**-5.9**	4.5	4.3	0.0	**-4.5**
Other reasons [a]	35.2	23.4	19.6	**-15.6**	18.1	30.4	23.5	**5.4**
n (women with children under age 5 who did not seek medical help)	74	60	51		22	23	17	

[a] Among the reasons in this category were "lack of time" and "lack of knowledge of where to take a sick child."

Of the mothers who did not seek medical help for their children, the percentage who believed that there was "no use" in doing so increased in both the experimental and the control group (by 18.0 and 14.4 percentage points, respectively). Traditional Andean medicine links ill health to emotions, which are outside the realm of Western health practices. Attending church or using traditional medicine may be a preferred alternative to treating illnesses. Additionally, there seems to be a growing sense of distrust of medical services among women in Bolivia. It is possible that mothers who participated in NGO programs became more critical of health services as they learned more about health-related topics over time. Although women who participated in the education programs may improve their understanding of the importance of seeking medical help when they need it, without considerable efforts to improve the health services and win the "customers' trust," women's medical-seeking behavior may not be substantially affected. As a result, improvement in women's health, particularly among the poor in Bolivia, could remain a distant objective.

Table 7-14 shows that women in both the control group and experimental group reported to GWE-PRA interviewers that their children were sick during the two weeks prior to the interview. An overall increase in reporting childhood illnesses was observed in both groups over the period (of 4.6 and 10.9 percentage points). Likewise, changes were found in the percentage of women reporting that their children had suffered from diarrhea or a severe cough over the period. In Year 1, the percentage of mothers who did not treat their children's diarrhea was higher in the control group than in the experimental group (by 43.8% and 19.1%, respectively).

Table 7-14: Percentage of Women with Sick Children under Six and Type of Treatment

	Experimental (%)				Control (%)			
	Yr. 1	Yr. 2	Yr. 3	Yr. 1-3	Yr. 1	Yr. 2	Yr. 3	Yr. 1-3
My child was sick (past 2 weeks)	38.6	42.6	43.2	**4.6**	36.0	33.3	46.9	**10.9**
Diarrhea[a]	22.5	21.1	25.9	**3.4**	16.0	24.5	23.2	**7.2**
Treat with home remedies	51.7	66.3	58.4	**6.7**	37.6	56.0	69.6	**32.0**
Treat with medicines	23.6	17.5	20.8	**-2.8**	18.8	28.0	13.0	**-5.8**
Nothing	19.1	13.8	20.8	**1.7**	43.8	16.0	17.4	**-26.4**
Severe Cough[a]	40.9	43.0	44.1	**3.2**	43.0	33.3	35.4	**-7.6**
Treat with home remedies	37.0	39.3	38.7	**1.7**	37.2	44.1	48.6	**11.4**
Treat with medicines	50.6	49.7	50.9	**0.3**	37.3	32.3	45.7	**8.4**
Nothing	12.3	11.0	10.4	**-1.9**	23.3	23.5	5.7	**-17.6**
Total n	396	380	370		100	102	98	

[a] Percentages are based on the total number of women who had a sick child in the past two weeks (total n).

However, over the three-year period, the percentage of children who did not receive any treatment in the control group dropped to 17.4%. The experimental group showed an increase in untreated children (20.8%). Women in both groups treated their children with home remedies and medicines. However, the control group had a higher percentage of women who treated diarrhea with home remedies than the experimental group by Year 3 (69.6% and 58.4%, respectively).

Both the experimental and the control group women reported that their children had experienced a severe cough in the two weeks prior to the interviews. Over the three-year period, most women in the experimental group said they would treat a severe cough with medicines, while the control group seemed to prefer to treat a severe cough with home remedies.

GWE-PRA data suggest that most women in the sample treated their children either with home remedies or medicine when they were sick. There was a decrease in the percentage of mothers who said that they did not treat their children's diarrhea and a severe cough at all in the control group over the three-year period (26.4 and 17.6 percentage points, respectively). The type of treatment adopted by mothers varied according to the type of illness. Diarrhea was more likely to be treated at home than was a severe cough. However, it is important to emphasize that in Bolivia, NGOs do not necessarily discourage the use of home remedies. Most NGOs do not encourage women to treat diarrhea with medicine. All programs emphasize simple hydration and other home treatments as

preferable methods to treat children with diarrhea. Similarly, many women prefer to treat coughs with home remedies.

Immunization is known to be the most important preventive method to fight a number of common diseases. As a preventive measure, vaccination can increase the productivity of the family, as well as the community because it results in fewer illnesses.

The majority of the women in the study reported that their children had been immunized against tuberculosis (BCG vaccine), polio (OPV vaccine), diphtheria, pertussis and tetanus (DPT vaccine) or measles (see Table 7-15). Women in the experimental group showed a 5.7 percentage point increase in immunization while the control group women showed a smaller increase over the three-year period (0.8). Additionally, the percentage of women in the control group who reported that they had immunized their children under the age of five decreased from Year 2 to Year 3. This could be an indication that either some women were not reporting accurately, they did not understand the question or they had recently had a baby who had not yet been immunized. It is important to note that immunization against measles showed the largest increase in both groups over the period. However, women in the control group had a higher gain than women in the experimental group (8.9 and 3.2, respectively).

It is possible that government health campaigns were responsible for that increase among women in both groups. For example, in the last few years a number of government campaigns were sponsored in response to an epidemic of measles. Such campaigns consisted of both home visits by health workers and radio broadcasts. In addition to government campaigns, vaccinations against measles are part of the government's free basic health insurance for children under the age of five.

Table 7-15: Percentage of Women with Children under Five Who Received Care

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Chn.	Year 1	Year 2	Year 3	Year 1-3 Chn.
Has your child under age 5 received?								
Immunization	87.8	91.3	93.5	5.7	79.0	84.2	79.8	0.8
BCG	96.5	95.1	98.0	1.5	96.2	90.6	98.7	2.5
OPV	90.5	89.3	90.8	0.3	87.3	84.7	89.9	2.6
DPT	81.8	77.6	83.8	2.0	83.5	81.7	81.0	-2.5
Measles	59.8	71.6	63.0	3.2	51.9	60.0	60.8	8.9
Vitamin A	51.9	61.2	68.7	16.8	38.0	39.0	56.1	18.1
Tablets against parasites	22.9	31.6	28.8	5.9	9.1	18.6	17.2	8.1
Total n	396	382	371		100	102	100	

In addition to vaccination, children must receive adequate nutrition and treatment against parasites in order to develop their health and well being. Vitamin A is critical to the body's growth, including brain development, which continues until the age of ten. Treatment against parasites also

affects children's growth and helps prevent parasite related illnesses such as malnutrition, and hearing and vision impairment (Lockheed, 1991).[15]

Overall, both the experimental and the control group showed an increase in use of Vitamin A. From Year 1-3, the use of Vitamin A increased in the experimental group by 16.8 percentage points while it improved by 18.1 percentage points in the control group. Women in the experimental group showed a 5.9 percentage point increase in use of parasite tablets during the three-year period while the control group women had a higher percentage increase (8.1 percentage points). However, it is important to note that both groups experienced a decrease in use of parasite tablets from Year 2 to Year 3. Because tablets against parasites are not a prophylactic measure, it is possible that fewer children were infected with parasites and treatment was not needed.

7.3.3 Reproductive Health

This section discusses both the knowledge and use of family-planning methods. Because of the high correlation between knowledge and practice, we anticipated that *knowledge* of family planning would increase women's *use* of family-planning methods. Women were asked two questions: whether they knew of any method to avoid pregnancy, and whether they were using a family planning method at the time of the interview. Table 7-16 shows that most women knew at least one family planning method at the time of the interviews. Overall, the percentage of women who knew of family-planning methods increased in the control and experimental group over the three-year period. However, women in both groups showed a decrease in knowledge of some types of family-planning methods, such as the pill, Copper-T, condom, and Norplant, from Year 2 to Year 3. This could be an indication that some women were not reporting accurately, that they did not understand the question, or that they forgot what they had learned about those two types of contraceptive.

Table 7-16: Percentage of Women Reporting Knowledge of Family-Planning Methods

	Birth Control Pill	*Copper T*	*Condom*	*Depro Provera*	*Norplant*	*Diaphragm*	*Sterilization (woman)*	*Sterilization (man)*	*Rhythm*	*Withdrawal*	*Mela (Breastfeeding)*
Year 1 (n=941)											
Experimental	55.1	57.6	51.7	35.4	6.4	21.8	25.5	17.3	67.8	12.1	39.7
Control	45.1	46.4	44.2	26.3	7.6	18.3	18.8	12.9	64.3	8.9	25.4
Year 2 (n=941)											
Experimental	72.9	78.5	72.9	52.7	5.3	35.8	31.2	22.2	81.0	19.1	43.5
Control	58.9	61.6	56.3	40.6	3.6	16.5	22.8	18.3	71.4	15.2	28.1
Year 3 (n=940)											
Experimental	71.4	73.3	71.9	54.1	8.2	36.2	42.6	31.1	91.1	27.8	49.3
Control	54.5	59.8	50.4	40.6	2.7	12.1	30.8	21.4	80.4	17.0	33.5

[15] It is important to emphasize that while Vitamin A treatment is a preventive measure, the treatment against parasites is not. Only children who had been diagnosed with this illness were treated with medication.

To determine women's knowledge of family-planning methods, an 11-point scale composite was created, and average scores were calculated.[16] As Table 7-17 indicates, family planning awareness scores in the control and experimental group increased over the three-year period. However, the experimental group demonstrated a higher gain in knowledge than the control group. The mean score for both groups was less than 5.5 in Year 1 (the mid-point on this scale). Over time, the experimental group's knowledge scores increased to 5.56, while the control group's scores remained below the mid-point on the composite scale (4.03). We hypothesize that social and health campaigns to increase use of family-planning methods were responsible for the increase in knowledge of family-planning methods among women in the control group.

Table 7-17: Average Scores on Family-Planning Methods Awareness

Awareness Composite of Family-Planning Methods (0-11 scale)					
Group	**Year 1**	**Year 2**	**Year 3**	**Year 1-3 Chng.**	**n**
Experimental	3.91	5.15	5.56	**1.65**	717
Control	3.18	3.93	4.03	**0.85**	224

The increase in knowledge of family-planning methods among women in the experimental group was probably due to their participation in integrated literacy and basic education programs combined with community information campaigns. NGOs with an extensive health component seemed to increase women's health-related knowledge and practice.

In addition to asking women about their knowledge of family-planning methods, we asked them whether they actually use any of these methods. Table 7-18 shows that less than 50% of the women in the sample were using any family-planning method at the time of the interviews.[17] Additionally, reported usage increased only for women in the experimental group, who showed a 1.7 percentage point gain over the three-year period.

Table 7-18: Percentage of Women Who Use a Family-Planning Method

Group	**Year 1**	**Year 2**	**Year 3**	**Year 1-3 Chng.**	**n**
Experimental	39.1	41.7	40.8	**1.7**	717
Control	31.7	36.6	31.7	**0.0**	224

[16] The composite of family-planning methods awareness was created by summing up the 11 methods of family planning presented in Table 5-1. A score of 0 represented very low awareness, while a score of 11 represented very high awareness. A reliability test was conducted for years 1-3 to confirm that all 11 items contributed to the awareness variable. The test results show that the items are strongly correlated (? = .88, .86 and .88, respectively).

[17] Although the majority of women were not using any type of family-planning method at the time of the interview, women's reasons for not using family planning methods were not investigated in this study.

Table 7-19 shows that the use of family-planning methods fluctuated slightly among groups, locations, and NGOs from year to year. Use of family-planning methods increased by 1.0 percentage point among women in the rural control group, while it decreased by 0.8 percentage point among women in the urban control group.

Table 7-19: Percentage of Women Who Use a Family-Planning Method by Group, Location, and NGO

	Women Who Use a Method of Family Planning (%)				
	Year 1	**Year 2**	**Year 3**	**Year 1-3**	**n**
By Group					
Control Group	31.7	36.6	31.7	**0.0**	224
Rural	29.2	26.0	30.2	**1.0**	96
Urban	33.6	44.5	32.8	**-0.8**	128
Experimental Group	39.1	41.7	40.8	1.7	716
Rural[a]	38.4	38.7	38.8	**0.4**	291
Urban[b]	39.5	43.8	42.1	**2.6**	425
By NGO					
Gregoria Apaza	36.7	38.9	41.1	**4.4**	180
Pro Mujer	44.2	49.7	43.7	**-0.5**	197
PLAN	44.9	30.9	37.0	**-7.9**	135
CRECER	31.9	42.4	43.1	**11.2**	144
NGO Partnership					
PLAN/CRECER	33.3	46.7	33.3	**0.0**	60
Total	37.3	40.5	38.6		940

[a] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

Women in both the rural and the urban experimental groups increased their use of family-planning methods over the period (by 0.4 and 2.6 percentage points, respectively). The highest increase in use of family-planning methods among women in the NGOs occurred among women in CRECER programs (11.2 percentage points), an NGO with a very strong focus on health. Women in Gregoria Apaza programs, an urban NGO with no focus on health, also showed an increase in use of family-planning methods (4.0 percentage points). It is possible that Gregoria Apaza's focus on women's empowerment influenced women to take charge of their reproductive health and increased their use of family-planning methods. Women in the remaining NGOs–Pro Mujer, PLAN, and PLAN/CRECER–showed either a decrease in their use of family-planning methods or no change (0.5, 7.9 and 0.0 percentage points, respectively). All three NGOs programs had varying degrees of health training as part of their curriculum.

Even though most women in the GWE-PRA sample were not using any family-planning methods at the time of the interviews, the percentage of women who said they would like to use them increased by 11.6 percentage points among women in the experimental group (see Table 7-20). Interest in family planning decreased among women in the control group from Year 1-2 (by 1.7 percentage points) but increased over the three-year period (by 8.6 percentage points).

Table 7-20: Percentage of Women Who Would Like to Use a Family-Planning Method

	Women Who Would Like to Use a Family-Planning Method (%)			Change in Percentage Points		
Group	**Year 1**	**Year 2**	**Year 3**	**Year 1-2**	**Year 2-3**	**Year 1-3**
Experimental	45.6	50.0	57.2	**4.4**	**0.5**	**11.6**
Control	37.6	35.9	46.5	**-1.7**	**3.3**	**8.6**
Total n	511	560	503			

Table 7-21 shows that overall, most women who reported an interest in using family-planning methods, from both the experimental and control group, preferred the rhythm method over other types of family-planning methods (56.8% and 60.0%, respectively), particularly in Year 3

Table 7-21: Preferred Methods Among Women Who Reported Interest in Starting to Use Family-Planning Methods

	Birth Control Pills	*Copper T*	*Condom*	*Depro Provera*	*Norplant*	*Diaphragm*	*Sterilization (woman)*	*Sterilization (man)*	*Rhythm*	*Withdrawal*	*Mea (Breast-feeding)*
Year 1 (n=223)											
Experimental	27.7	36.6	12.7	6.6	0.7	3.5	4.9	2.1	40.8	2.1	2.0
Control	27.5	35.0	12.5	7.9	3.1	0.0	8.6	0.0	47.5	0.0	5.4
Year 2 (n=260)											
Experimental	18.4	45.7	10.6	6.9	0.0	3.2	3.3	0.0	35.3	0.0	3.6
Control	27.3	19.0	7.1	12.8	0.0	2.6	2.7	0.0	48.9	5.9	2.6
Year 3 (n=274)											
Experimental	20.3	35.0	16.7	16.1	0.6	2.2	5.7	0.6	56.8	2.3	2.1
Control	19.6	17.0	12.5	14.0	0.0	2.4	2.5	0.0	60.0	0.0	0.0

Data also show that, overall, women's preferences for different types of family-planning methods shifted slightly over the three-year period. Women in the experimental and control group showed a decrease in interest in the birth control pill, Copper-T, Norplant and male sterilization. Women in the experimental group showed an increase in preference for condoms, female sterilization,[18] Depro

[18] Female sterilization requires: 1) the husband's authorization, that the woman be over 40 years of age, that she have several children, and that she sign a document stating that she understands that this procedure is irreversible.

Provera[19], and withdrawal. Both experimental and control group women showed a large increase in preference for the rhythm method as a form of family planning (16.0 and 12.5 percentage points, respectively).

Women's preference for the rhythm method can be explained in several ways. Most women consider the rhythm method to be "natural," and therefore, a preferable way to avoid pregnancy. In addition, in Bolivian culture, many husbands see the rhythm method as a way to monitor and control their partner's sexuality. By adopting that method, they know when their wives are fertile and can make decisions about whether or not to have intercourse. Finally, some NGOs, such as Pro Mujer, promote the rhythm method because, over time, women have expressed a preference for that type of family-planning method. However, they also found that considerable confusion and misinformation existed about this method. Hence, Pro Mujer focused on this method in their training to ensure that women knew how to use it correctly. Other NGOs, such as CRECER, promote all types of family-planning methods equally.

[19] Depro Provera is an injection that lasts for three months. It does not require a partner's authorization.

The use of family-planning methods usually affects fertility rate. Table 7-22 indicates that women in the urban control group showed a decrease in fertility rate over the three-year period. However, these statistics must be viewed with caution. A three-year research activity is not sufficient to assess whether significant changes in fertility rate have occurred. Data from three out of four NGOs with a strong health component, Pro Mujer, PLAN, CRECER, and the NGO partnership PLAN/CRECER, which focuses on health and family planning suggest that decreases have occurred among women in those programs. As expected, Gregoria Apaza, an NGO that does not focus on health/family planning showed an increase in fertility rate over the period, but overall ratios remain at the lowest comparatively in all these years.[20]

Table 7-22: Fertility Rate, Children-to-Woman Ratio, and Women's Age

	Mean Fertility Ratio[a]			Mean Child/Woman Ratio[b]			Mean Age		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
By Group									
Control (n=224)	0.14	0.13	0.10	2.20	2.32	2.49	27.9	29.0	30.1
Rural (n=96)	0.18	0.15	0.18	2.30	2.45	2.74	27.8	28.9	29.9
Urban (n=128)	0.11	0.12	0.05	2.13	2.23	2.30	27.9	29.1	30.2
Experimental (n=717)	0.17	0.12	0.17	2.63	2.83	3.0	29.5	30.7	31.7
Rural[a] (n=292)	0.21	0.13	0.19	3.29	3.51	3.71	31.2	32.6	33.5
Urban[b] (n=425)	0.15	0.11	0.15	2.18	2.36	2.51	28.4	29.4	30.5
By NGO									
Gregoria Apaza (n=180)	0.06	0.07	0.09	1.31	1.38	1.47	25.6	26.6	27.7
Pro Mujer (n=197)	0.22	0.15	0.20	2.82	3.07	3.27	30.3	31.3	32.3
PLAN (n=136)	0.25	0.16	0.18	3.25	3.56	3.77	30.9	32.6	33.6
CRECER (n=144)	0.17	0.14	0.15	3.11	3.31	3.43	31.1	32.3	33.3
NGO Partnership									
PLAN/CRECER (n=60)	0.17	0.05	0.28	3.42	3.57	3.9	31.9	32.8	33.7
Total	0.16	0.12	0.15	2.53	2.71	2.88	29.1	30.3	31.3
Total n	941	941	941	941	941	941	941	941	941

[a] Fertility ratio is calculated by using all newborn children during the year divided by all women in the sample.

[b] Child/woman ratio is calculated by using all children divided by all women in the sample.

The average children-to-mother ratio in the GWE-PRA study was lower than the national average (5.0 children per woman). However, the children-to-mother ratio increased in both control and experimental group over the three-year-period. The highest increase occurred among women in the rural control and the rural experimental group (by 0.44 and 0.42, respectively). Women in the urban control group displayed the smallest increase (0.17 percentage points). We believe that the ratio will continue to increase as women become older but are still within the productive age range. Eventually, the sample ratio probably will come close to that of the national average. Data from the

[20] We must note that Gregoria Apaza also has the youngest average age. Women in Gregoria Apaza are almost five years younger than other women over average. Therefore, the ratios could be significantly higher in five years.

NGOs demonstrate that the highest increases (0.52 and 0.48, respectively) in children-to-mother ratio were observed among women from PLAN and PLAN/CRECER, two rural NGOs. Only PLAN/CRECER focus on health/family planning.

The differences in fertility ratio and child/woman ratio between rural and urban areas are consistent over three years. These ratios were higher in rural areas than those in urban areas, regardless whether these women were in the experimental or control group.

To understand possible differences between attitudes and practices regarding health care during pregnancy, women were asked what they should do to take care of themselves and their unborn baby during pregnancy.

Table 7-23 depicts their responses.

Table 7-23: Women's Perceptions about Things They Should Do During Pregnancy [a]

		Regular Check-Up with Doctor (%)	Avoid Carrying Heavy Items (%)	Eat More Nutritious Food (%)	Avoid Alcohol (%)	Avoid Smoking (%)
By Group						
Control						
Rural	Year 1	74.7	67.4	94.6	85.2	97.9
	Year 2	68.9	78.6	98.9	94.7	98.9
	Year 3	94.7	84.6	97.9	96.8	100.0
Urban	Year 1	94.5	83.5	98.4	90.6	87.5
	Year 2	97.7	96.0	99.2	100.0	97.7
	Year 3	100.0	97.6	100.0	100.0	100.0
Experimental						
Rural[b]	Year 1	85.0	73.7	95.8	85.4	94.2
	Year 2	93.1	82.4	98.3	96.2	96.5
	Year 3	96.9	90.0	99.3	98.3	99.3
Urban[c]	Year 1	97.9	84.1	99.1	87.1	91.5
	Year 2	97.6	94.8	99.1	99.3	98.3
	Year 3	98.8	96.9	100.0	99.8	99.5
By NGO						
Gregoria Apaza	Year 1	98.3	82.6	98.3	85.6	90.0
	Year 2	99.4	97.2	99.4	98.9	98.9
	Year 3	99.4	96.7	100.0	99.4	100.0
Pro Mujer	Year 1	96.4	84.8	99.5	88.8	92.9
	Year 2	95.9	92.3	98.5	99.5	97.9
	Year 3	98.0	97.5	100.0	100.0	99.0
PLAN	Year 1	88.7	61.5	92.5	83.6	99.3
	Year 2	88.7	75.6	98.5	93.9	97.7
	Year 3	94.0	85.9	98.5	97.8	98.5
CRECER	Year 1	95.8	81.4	99.3	86.7	87.5
	Year 2	97.9	91.0	98.3	98.6	99.3
	Year 3	99.3	95.8	100.0	99.3	100.0
NGO Partnership						
PLAN/CRECER	Year 1	88.1	86.0	98.3	86.2	96.7
	Year 2	94.7	87.9	98.6	98.3	87.9
	Year 3	100.0	90.0	100.0	98.3	100.0
Total	Year 1	91.3	79.2	97.5	86.9	92.5
	Year 2	93.5	89.6	98.8	98.0	97.7
	Year 3	98.0	93.7	99.6	99.0	99.6

[a] Appendix 1 (Table A7-23) shows the number of cases on which percentages for each year are based.

[b] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[c] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

As shown, approximately 90% of the women believed that they should eat more nutritious foods and avoid alcohol and smoking. A slightly smaller percentage believed they should avoid lifting heavy items and visit the doctor regularly for check-ups. Most women already knew about prenatal care in Year 1. However, women from urban areas were more likely to give responses that indicated that they understood what practices were healthy during pregnancy than their rural counterparts. In Year 3, women from both groups and locations showed very similar knowledge about prenatal care.

7.3.4 Knowledge of HIV/AIDS and Sexually Transmitted Infections

This section examines women's awareness of sexually transmitted infections. Women were asked whether they had heard about four common sexually transmitted infections: gonorrhea, syphilis, trichomoniasis, and HIV/AIDS. Table 7-24 shows their responses to these questions:

Table 7-24: Women's Reported Knowledge about Sexually Transmitted Infections

	Gonorrhea			Syphilis			Trichomoniasis			AIDS/HIV		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
By Group												
Control	35.3	40.2	41.5	47.3	45.1	58.9	16.1	12.5	16.1	65.6	67.0	70.5
Rural	22.9	20.8	12.5	32.3	21.9	45.8	13.5	2.1	1.0	34.4	33.3	36.5
Urban	44.5	54.7	63.3	58.6	62.5	68.8	18.0	20.3	27.3	89.1	92.2	96.1
Experimental	44.4	47.8	48.9	53.0	59.3	67.7	16.9	19.8	19.8	74.1	76.6	75.8
Rural[a]	29.8	30.5	21.6	40.1	43.5	60.8	9.6	12.0	10.7	50.0	50.0	46.7
Urban[b]	54.4	59.8	67.5	61.9	70.1	72.5	21.9	25.2	26.1	90.6	94.8	95.8
By NGO												
Gregoria Apaza	53.3	53.3	66.1	56.1	64.4	69.4	25.0	21.1	27.8	93.3	95.6	96.7
Pro Mujer	51.3	65.0	66.5	65.0	77.7	75.6	16.8	28.9	22.8	89.8	94.4	94.4
PLAN	24.3	19.9	9.6	34.6	37.5	54.8	3.7	3.7	4.4	36.8	30.1	31.1
CRECER	52.1	54.9	58.3	54.2	59.0	70.1	25.0	27.1	27.8	77.1	88.2	84.7
NGO Partnership												
PLAN/CRECER	21.7	21.7	5.0	43.3	33.3	60.0	3.3	5.0	1.7	41.7	38.3	31.7
Total %	42.2	46.0	47.1	51.6	60.7	65.6	16.7	18.1	18.9	72.1	74.3	74.6
Total n	941	941	940	941	941	940	941	941	940	941	941	940

[a] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

The sexually transmitted infections most frequently recognized by women in both the control and the experimental groups in all years (particularly in Year 3), was HIV/AIDS. The proportion of urban women who knew about HIV/AIDS was more than twice as large as the proportion of the rural women in all three years. Although the percentages of women in the experimental group who resided in rural areas were higher than the percentages of women in control group in rural areas, in all three years, the large numbers of rural women who reported no knowledge of HIV/AIDS suggests that rural women, as a whole, should be the target of group awareness campaigns of HIV/AIDS health policies.

The next most well-known infections were syphilis (58.9% and 67.7%), followed by gonorrhea (40.2% and 47.8%), and trichomoniasis, which were familiar to a smaller percentage of women in

both groups (16.1% and 19.8%). Data showed an increase in knowledge of gonorrhea, syphilis, trichomoniasis, and HIV/AIDS among women in the experimental group over the three-year period (4.5, 14.7, 2.9 and 1.7, percentage points, respectively). Control group women had an increase in knowledge of gonorrhea, syphilis and HIV/AIDS (6.2, 11.6 and 4.9 percentage points, respectively).

While most women in urban areas had heard about sexually transmitted infections, a smaller percentage in the rural areas had access to that kind of information. Women in the rural control and rural experimental group demonstrated a decrease in knowledge of gonorrhea (10.4 and 8.2 percentage points, respectively) over the period. Women in the rural control group had also a decrease in knowledge of trichomoniasis (12.5 percentage points) while women in the rural experimental group had a decrease in knowledge of HIV/AIDS (3.3 percentage points). This could be an indication that some women were not reporting accurately, that they did not understand the question or that they forgot what they had learned about those three types of STIs.

Similarly, NGOs, such as PLAN/CRECER and PLAN, organizations that work primarily in rural areas, had the lowest percentage of women who had heard about STIs, even though discussion of STIs is part of their curriculum. Women participating in the urban NGOs–Pro Mujer, Gregoria Apaza, and CRECER—demonstrated a greater overall increase in knowledge of gonorrhea, syphilis, and HIV/AIDS than women in the rural NGOs.

7.3.5 Summary of Women's Health Knowledge and Practice

The results presented in this section suggest that women who attended integrated literacy and basic education programs had greater increases in health-related knowledge and behavior than women who did not receive any health-related training. Increases in the proportion of women seeking medical help for themselves and for a sick child, as well as in adopting preventive health measures, such as immunization against common childhood illnesses (three topics discussed in the health-related programs offered by NGOs) were greater among women in the experimental group than in the control group. Although women's knowledge and practices in health care improved somewhat during the period, specific attention should to be paid to the importance of traditional medicine within Bolivian culture and the need to improve medical health care services and facilities. In Bolivia, where 50.5% of the population is indigenous, there is a strong preference for traditional medicine, such as home remedies and spiritual healing (World Health Organization, 2001). Additionally, as the growing concern about the quality of the medical services becomes more evident, policy makers and medical personnel in Bolivia will have to address the quality issues in order to win women's trust in medical treatment. This will eventually result in improving women's health and well being.

The only health indicators on which control group women showed higher improvement than the experimental group women were on the use of Vitamin A and tablets against parasites. We hypothesize that health campaigns to increase use of Vitamin A and prevent parasites were responsible for the increase in knowledge and change in behavior among women in the control group. However, it is still unclear why the Vitamin A health campaigns did not affect women in the experimental group the same way. The increased knowledge of the benefits of immunization and of seeking medical help for themselves or a sick child among women in the experimental group was

probably due to their participation in integrated literacy and basic education programs, combined with community information campaigns.

Data also suggest that use of home remedies to treat diarrhea and severe cough increased among women in the experimental group. However, over the three-year period, there was an increase in the number of experimental group women who did nothing about treating their children's diarrhea. In contrast, there was a decrease in the number of women who did not treat their children at all in the control group. This might be an indication that other programs and campaigns that emphasized treating children's diarrhea were operating in the community during that period.

In addition to learning more about preventive care for their children, women in the experimental had a higher overall gain in knowledge of family-planning methods than women in the control group, even though both groups of women showed improvement in knowledge of family planning over the period. Experimental group women showed a larger increase in interest in using family-planning methods. However, it is important to note that even though the overall outcomes related to reproductive health were promising for three years, and the women in the experimental group reported actual changes in their use of family-planning methods over the period, a three-year monitoring program is not sufficient to confirm significant changes in actual use of family-planning methods and fertility rate.

In relation to knowledge of sexually transmitted infections, the data revealed that both the experimental and the control group showed an increase in knowledge of STIs over the period. There was a discrepancy between the knowledge level of urban and rural women. While most women in urban areas had heard about sexually transmitted infections, a smaller percentage in the rural areas had acquired that kind of information.

7.4 Income-Earning Activities

Women contribute to economic growth through paid work, by engaging in activities that can be conventionally measured, and through unpaid work, such as subsistence production, volunteer work in the community and domestic activities. However, work in the informal sector is rarely measured or taken into account in development plans. In this section, we present data on how integrated literacy and basic education programs might influence the extent to which women are prepared to respond effectively to new economic opportunities and enhance control over their lives. Many informal sector activities overlap with subsistence-oriented household activities or community-based activities (World Bank, 1995). Because of the large number of women participating in the informal sector in Bolivia, it is important to interpret informal economic participation trends and their effect on the country’s economic development.

7.4.1 Research Questions

Three main questions guided our inquiry into women's economic participation, including:

1. Did women's participation in income-earning activities increase over the three-year period?

2. Did women's income grow from these activities?

3. What other factors, such as microcredit training, educational level and household characteristics, contributed to the gains in women's economic participation and income?

The analysis consisted of two basic steps. First, we quantified women's gains. Second, we built statistical models to analyze the relationship between improvement in economic participation and other socio-economic factors.

7.4.2 Extent of Women's Participation in Income-Earning Activities

Table 7-25 shows that women in the experimental and the control group increased their participation in income-earning activities over the three-year period (by 8.5 and 13.5 percentage points, respectively). Both the control and experimental group showed a decrease in the average number of working hours per week in Year 2 and an increase in Year 3. The overall mean number of working hours increased over the three-year period; however, average income dropped considerably over the period. On average, women were working more hours and earning less money over the three-year period. The GDP per capita in Bolivia was US$994 in 2000 (Instituto Nacional de Estadistica, 2000). The control group women in the GWE-PRA/Bolivia earned, on average, US$776 per year in Year 3, which is less than the average GDP per capita. Women in the experimental group, on the other hand, earned slightly more than the national average (US$1,050).

Table 7-25: Women's Participation in Income-Earning Activities, Number of Hours Worked, and Average Income by Group

	Participation in Income-Earning Activities (%)			Mean Number of Hours Per Week			Average Weekly Income (Bolivianos)		
Group	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Experimental (n=717)	72.8	78.1	80.7	34.7	34.2	38.7	166.3	121.0	134.3
Control (n=224)	50.0	58.0	64.7	39.2	33.2	42.2	119.2	90.7	99.4
Total (n=941)	67.4	73.3	76.9	35.4	34.4	39.6	158.9	116.0	128.1

Several factors might help explain fluctuations in the number of working hours and in weekly income across the three years. One explanation is the saturation of the marketplace that may occur when many similar income-earning activities are initiated in the same area. According to some NGO members, many women joined microcredit programs prior to and during[21] the GWE-PRA

[21] Women who entered any kind of training program after beginning the GWE-PRA study (other than those provided by the NGOs

research period. Women in the control group also may have participated in such programs during this period. Therefore, a large percentage of women who started an income-earning activity would be expected to eventually generate more competition for the same market space, resulting in less sales and a decreased need to work the same number of hours as in Year 1.

Second, the Bolivian economic downturn might have affected overall purchasing power, also leading to a decrease in business and in the number of working hours per week. These two phenomena might explain the decline in hours in Year 2 but not the subsequent increase in Year 3.

A third possibility is related to the time of year that the questions were asked. The number of hours worked may vary considerably, depending on the time of year that data were collected. Tasks performed at one time of the year may be very different (with different employers) than tasks performed at another time. Thus, the rate of compensation could vary considerably from one year to the next (depending on when the women were interviewed). Women in rural areas engaged in agricultural work are particularly susceptible to these seasonal variations.

To better understand the variation in income-earning activity participation, the number of hours worked, and average income, several sub-analyses were conducted. Different patterns of participation in income-earning activities were found between areas, age cohorts, NGOs, and women's educational level.

Table 7-26 shows differences in income-earning activity participation among women in urban and rural areas. Women in rural areas had a 15.5 percentage point increase in economic participation over the three-year period, while women in urban areas had a 5.4 percentage point increase. The number of hours worked and average income varied greatly between those two groups over the period. Women in urban areas worked more hours and had a higher average weekly income than rural women. However, the mean number of working hours increased, and average weekly income decreased in both groups over the three-year period. It is also important to note that when we examined the impact of location on participation in the labor market in Year 2, a decrease in the mean number of hours worked was found among women in both groups.

Table 7-26: Women's Participation in Income-Earning Activities, Number of Hours Worked, and Average Income by Location

	Participation in Income-Earning Activities (%)			Mean Number of Hours per Week			Average Weekly Income (Bolivianos)		
Location	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Rural (n=388)	69.3	71.4	84.8	23.5	22.2	26.6	115.6	78.6	87.5
Urban (n=553)	66.0	74.7	71.4	40.6	39.8	46.7	177.8	134.4	151.3

in the study) were omitted from the analysis. However, this did not include microcredit programs, and respondents who may have joined a microcredit program during the study period were *not* excluded.

Table 7-27 shows that the youngest age cohort (15-25) had the highest percentage point increase in economic participation from Year 1 to Year 3, although they still worked fewer hours than those in older age cohorts by the third year. Women between the ages of 36-45 had a 7.9 percentage point increase, and women between 26-35 years old showed the smallest change in income-earning activity participation (4.4 percentage points). Women in the oldest cohort worked the most hours and had a higher mean weekly income than younger women. However, the number of working hours increased for three age cohorts over the three-year period, and the average income varied for each age cohort.

Table 7-27: Women's Participation in Income-Earning Activities, Number of Hours Worked, and Average Weekly Income by Age Cohort

	Participation in Income-Earning Activities (%)			Mean Number of Hours per Week			Average Weekly Income (Bolivianos) [a]		
Age Group	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Age 15-25 (n=383)	54.0	61.6	68.6	34.2	34.5	38.2	145.0	105.9	122.0
Age 26-35 (n=294)	77.2	82.7	81.6	34.4	33.8	39.4	147.9	117.7	128.2
Age 36-45 (n=264)	75.8	79.9	83.7	37.9	33.8	40.6	187.5	125.1	134.7

[a] The exchange rate in July 1998 was U.S. $ = 0.18051 Bolivianos; in July 1999 U.S. $ = 0.17361; in July 2000 U.S. $ = 0.16287.

Table 7-28 shows variation in income-earning activity participation between locations and NGOs. Women in the rural experimental group and the rural control group showed an increase in income-earning activity participation (13.3 and 21.9, respectively).

Table 7-28: Income-Earning Activities Participation, Number of Working Hours, and Average Income by Group, Location, and NGO

	Income-Earning Activity Participation (%)			Mean Number of Hours per Week			Average Weekly Income (Bolivianos)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
By Group									
Control									
Rural (n=96)	52.1	57.3	74.0	29.1	27.1	38.9	121.7	123.2	139.1
Urban (n=128)	48.4	58.6	57.8	42.5	35.4	43.7	118.4	78.8	101.3
Experimental									
Rural[b] (n=292)	75.0	76.0	88.3	22.8	21.4	24.1	114.7	71.6	119.1
Urban[c] (n=425)	71.3	79.5	75.5	40.2	40.7	47.3	190.0	146.6	183.4
By NGO									
Gregoria Apaza (n=180)	49.4	68.9	63.9	30.2	39.4	41.0	85.4	96.0	109.4
Pro Mujer (n=197)	89.8	88.3	84.3	44.3	42.5	49.2	211.0	178.6	192.7
PLAN (n=136)	63.2	64.0	83.0	11.5	8.6	12.3	30.1	25.4	32.3
CRECER (n=144)	81.9	86.8	90.3	38.2	39.0	44.7	264.7	155.2	165.0
NGO Partnership									
PLAN /CRECER (n=60)	86.7	83.3	91.7	16.8	13.0	17.3	44.8	23.5	50.6
Total (n=941)	67.4	73.3	76.9	35.3	33.5	38.5	158.9	115.6	125.2

[a] The exchange rate in July 1998 was U.S. $ = 0.18051 Bolivianos; in July 1999 U.S. $ = 0.17361; in July 2000 U.S. $ = 0.16287.

[b] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[c] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

CRECER? primarily a rural NGO with a strong focus on income-earning activities? had a smaller gain than PLAN in women's participation in income-earning activities (8.4 percentage points). Women in PLAN/CRECER? a rural NGO with little focus on income-earning activities? demonstrated a 5.0 percentage point increase over the same period. These findings could be an indication that growth in agricultural activities have not reached women in rural areas equally. In urban areas, women in Pro Mujer? an NGO with a very strong income-earning program? showed a decrease in income-earning participation over the period (5.5 percentage points), while women in Gregoria Apaza? an urban NGO with focus on income-earning activities and empowerment? had a 14.5 percentage point increase.

These results suggest that participation in income-earning activities is linked with external labor market conditions, such as the nation's unemployment rate and overall country growth. Training alone may not have the desired impact on women's economic participation in the formal and informal sectors.

When we compared NGOs, we also found that women in urban and rural/urban NGOs had to work more hours per week than women in rural NGOs**.** Weekly income varied widely among women from different NGOs over the three-year period. Women in Gregoria Apaza showed a gradual annual increase in income, while women in CRECER and Pro Mujer experienced a decrease. Women in the other NGOs showed a decrease in income from Year 1 to Year 2 and then an increase from Year 2 to Year 3. These fluctuations in average income might have been caused by the economic downturn in Bolivia during the past several years, particularly in Year 2 of the GWE-PRA. Also, the average weekly income varied greatly among NGOs. Women in PLAN and PLAN/CRECER (all in rural areas) had a much lower average income than women in Pro Mujer, CRECER, and Gregoria Apaza (all in urban areas).

7.4.3 Income-Earning Activities and Formal Education

Table 7-29 shows that women with post-secondary education had a greater increase in income-earning activity participation (25.0 percentage points) than women with lower educational levels. However, the second largest increase in income-earning participation was observed among women with no education (12.3 percentage points), followed by women with secondary-level education (9.4 percentage points) and women with primary-level education (6.7 percentage points).

Table 7-29: Women's Participation in Income-Earning Activities, Number of Hours Worked per Week, and Average Income by Educational Level

	Income-Earning Activities (%)			Mean Number of Hours per Week			Average Income (Bolivianos) [a]		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
No Education (n=188)	73.9	72.9	86.2	29.8	24.3	29.12	145.1	59.5	96.0
Primary (1-5) (n=342)	72.2	78.1	78.9	35.6	36.5	41.1	180.8	120.6	127.2
Secondary (6-12) (n=379)	61.5	69.9	70.9	37.7	35.2	41.6	145.4	125.5	136.5
Higher Education (n=32)	46.9	65.6	71.9	33.7	39.9	47.6	155.2	207.3	200.5

[a] The exchange rate in July 1998 was U.S. $ = 0.18051 Bolivianos; in July 1999 U.S. $ = 0.17361; in July 2000 U.S. $ = 0.16287.

More women participated in income-earning activities in Year 3 than in Year 1. Furthermore, women's participation increased across all levels of education. This may indicate that national development programs and NGO development projects, such as microcredit loans targeting all groups of women, urban and rural, various levels of education, and SES background, are working.

In general, women with more education worked more hours, as this study shows. Women with post-secondary education worked the most hours, while women with no education worked the fewest hours in all three years. This might be an indication that women with more education have more stable income-earning activities and/or larger "business operations" in which they must spend time planning, organizing, and expanding.

Similarly, women with more education earned more income. Women with post-secondary education earned the most, while women with no education earned the least in Year 3. Note, however, that women with post-secondary education were the only women whose income increased from Year 1 to Year 3. The findings in the preceding table clearly indicate that women with low levels of education or no education would be the most vulnerable in a poor economic environment.

7.4.4 Types of Income-Earning Activities in Which Women Participate

As shown from the statistics in the previous table, economic participation increased from Years 1 to 3 (as measured by the percentage of women who participated in income-earning activities). Table 7-30 depicts the main income-earning activities in which each woman participated and shows changes over the three-year period. Although some women were involved in more than one activity, this table only shows the principal activity in which they participated. As in most parts of Bolivia, the predominant economic activity among the women in the study seemed to be "selling things."

Table 7-30: Percentage of Women Who Participate in Different Types of Income-Earning Activities

Main Activity	Experimental Group (%)			Control Group (%)			Total (%)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Sell in the market	25.1	30.4	25.1	11.3	23.6	17.4	22.6	29.1	23.5
Sell to the store	7.8	7.2	5.9	14.3	11.4	10.6	9.0	8.0	6.9
Sell as peddler	8.9	6.8	8.0	8.3	2.1	6.2	8.8	5.9	7.6
Sell raw food	2.7	3.7	3.5	2.3	2.1	1.9	2.6	3.4	3.2
Sell processed food	2.2	3.2	3.7	3.8	4.3	1.2	2.5	3.4	3.2
Tailoring	5.2	9.8	8.2	3.0	2.9	3.7	4.8	8.5	7.2
Knitting	8.1	7.8	6.5	11.3	7.1	8.7	8.7	7.7	7.0
Craft making	2.0	3.3	2.3	1.5	2.1	1.9	1.9	3.1	2.2
Washing clothes	0.8	1.0	0.8	0.8	0.7	1.9	0.8	0.9	1.1
Domestic service	1.2	1.3	1.2	0.8	0.7	2.5	1.1	1.2	1.4
Child care	0.2	0.2	0.2	0.8	0.7	0.6	0.3	0.3	0.3
Agriculture	6.4	8.8	14.5	21.8	22.1	23.0	9.2	11.3	16.3
Raise/sell animals	22.6	14.6	16.1	15.8	18.6	17.4	21.3	15.4	16.3
Other	6.7	1.8	4.0	4.5	1.4	3.1	6.3	1.8	3.9
Total n	593	601	598	133	140	161	726	741	759

Overall, more than 45% of all women who had income-earning activities were "selling things." This suggests that a "cash economy" is dominant among women in Bolivia. A smaller percentage of experimental and control group women worked in craft-making (knitting, tailoring or other crafts). Service-oriented activities, such as child care, domestic assistance, and washing clothes were not common in either the control or the experimental group.

The types of activities women participated in changed somewhat over the three-year period. However, in Year 3, the most common income-earning activities in the experimental group continued to be: 1) "selling in the market" (25.1%); 2) "raising and selling animals" (16.1%); and 3) "agriculture" (14.5%). In the control group, the most common income-earning activities were: 1) agriculture (23%); 2) raising/selling animals (17.4%); 3) selling in the market (17.4%); and 4) selling to stores (10.6%). Agricultural activity participation and tailoring increased in both groups over the period. The increase in agricultural activities may be due to the favorable agricultural conditions from 1998-2000. The proportion of experimental group women involved in selling raw and processed foods increased, while increases among control group women were concentrated in activities such as selling in markets, craft making, washing clothes, performing domestic work, and raising and selling animals.

All income-earning activities mentioned by women as their main source of income were vulnerable to market forces that affect the balance of supply and demand, profitability and costs, production cycles, and sources of raw materials. These conditions probably accounted for the overall variation in economic participation among women in the sample. Although length of employment (permanent or seasonal) and sectors (formal and informal) are important factors to consider when discussing economic participation, these external factors are beyond the scope of this study.

Table 7-31 examines women's knowledge of basic bookkeeping, profits, and capital. Overall, more women from urban areas had basic bookkeeping skills, probably because they were involved in small-business activities. However, the percentage of women in the rural and the urban experimental group with knowledge of this subject grew over the period (by 5.6 and 1.2 percentage points, respectively), while it declined for rural and urban control group women (by 0.5 and 4.4 percentage points, respectively). It is possible that women in those groups failed to practice the bookkeeping and profit calculation skills they had, and as a result, could no longer remember that information in Year 3.

Table 7-31: Women's Knowledge of Bookkeeping and Profit Calculation

	Basic Bookkeeping Skills (%)			Number of Women			Know Profits and Capital (%)			Number of Women		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
By Group												
Control												
Rural	6.6	7.9	6.1	61	63	82	34.4	52.4	39.0	61	63	82
Urban	20.8	20.8	16.4	53	53	61	62.3	88.7	90.2	53	53	61
Experimental												
Rural[a]	8.2	12.5	13.8	245	256	269	60.4	64.8	59.7	245	256	268
Urban[b]	29.7	28.7	30.9	286	282	282	84.4	85.1	85.1	282	281	281
By NGO												
Gregoria Apaza	20.8	25.3	27.6	72	83	87	73.9	75.9	70.9	69	83	86
Pro Mujer	36.9	32.5	33.8	176	163	160	89.7	92.0	91.9	175	162	160
PLAN	2.8	5.9	1.6	106	119	127	43.4	51.3	44.1	106	119	127
CRECER	14.9	20.2	29.4	121	119	119	76.0	76.5	84.9	121	119	119
NGO Partnership												
PLAN/ CRECER	7.1	14.8	15.5	56	54	58	71.4	75.9	59.6	56	54	57
Total	18.6	19.7	20.0	645	654	694	68.6	74.3	70.2	641	653	692

[a] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

Additionally, the proportion of women who were able to demonstrate knowledge of profits and capital also increased over the period. Gains of 4.6 and 27.9 percentage points, respectively, in the proportion of women who were knowledgeable of that subject were observed in the rural and the urban control group. The proportion of women who demonstrated knowledge of profits and capital in the rural experimental group decreased by 0.7 percentage points, while the women in the urban

experimental group with that knowledge increased by 0.7 percentage points over the same period. Pro Mujer had the largest percentage of participants with bookkeeping skills, but showed a decline in the number of participants who were able to demonstrate knowledge of bookkeeping and profits and capital over the period, even though this organization allocates 60% of its program time to income-earning activities. CRECER, an NGO with a strong focus on income-earning activities, showed an increase in participants knowledgeable about bookkeeping, as well as about profits and capital, over the period.

7.4.5 Income-Earning Activities Composite

A standardized composite (100-point scale) measuring the degree of women's participation in income-earning activities was developed. The composite included the participation in income-earning activities, plans for expansion, external loans for small income-earning activities, and so forth.

Table 7-32 shows that in Year 3, women in both the experimental and the control group, on average, had a higher degree of participation in income-earning activities than they had in Year 1. Little difference was observed in the degree of participation in income-earning activities between the experimental and the control group. However, the gap between these groups in Year 3 remained, with 50.3% and 32.0% of the women participating in income-earning activities, respectively.

Table 7-32: Women's Participation in Income-Earning Activities (Standardized Composite)

	Mean Composite Score (0-100 scale)			Total n
Group	**Year 1**	**Year 2**	**Year 3**	
Experimental	44.2	48.6	50.3	717
Control	23.2	27.5	32.0	224

One of the objectives of creating a composite was to use the composite value as an outcome measure and to identify factors that help explain the variation in that outcome. In this case, we built a regression model with the income-earning activities composite as the outcome measure and the following factors as explanatory variables: participants' age, educational level, locality, baseline income-earning composite, time, and membership in the experimental group.

This regression analysis was calculated to determine whether the NGO programs contributed to the degree of income-earning activity participation? controlling for women's background characteristics, for example, age, educational level, locality, and the baseline income-earning activities composite. In the explanatory model presented on Table 7-33, 20% of the total variance in economic participation composite was explained by these six factors. Each factor in the model significantly contributed to the explanation, controlling for the other factors.

Table 7-33: Factors that Explain Women's Participation in Income-Earning Activities

	slope coefficient	***s.e.***	***t-statistics***	***p-value***
Constant Value (or intercept)	4.07	1.85	2.20	0.028
Group (experiment=1 and control=0)	**18.55**	**1.12**	**16.51**	**0.000**
Women's Education Level	-4.42	0.74	-5.97	0.000
Marital Status (Married=1, Single=0)	4.20	1.13	3.72	0.000
Locality (Urban=1, Rural=0)	3.47	1.16	2.98	0.003
Home Material Possessions (0-14)	3.26	0.22	14.77	0.000
Time (Baseline=0, Yr2=1, Yr3=2)	2.84	0.59	4.84	0.000
R-square	0.20			
F-statistics	121.42			
p-value (model)	0.000			

A fundamental interest was to see if the "experimental/control group" variable was a significant factor in women's income-earning activities. Based on this analysis, we concluded that over the period 1998-2000, women's participation in the integrated literacy and basic education programs in the study made a significant difference in their level of participation in income-earning activities. This was measured by the composite index, controlling for other factors (effects) of locality, educational level, women's age, marital status, home material possessions, and time. Women who participated in the programs had, on average, a value (coefficient = 18.55) on the composite that was almost 19% higher than the women who did not participate in the programs, even taking into consideration the significant variations of other factors in the model. Results also indicated that women from urban areas had higher degrees of participation in income-earning activities than women from rural areas. Similarly, the more educated women had higher degrees of participation in income-earning activities.

7.4.6 Summary of Women's Participation in Income-Earning Activities

The overall number of women who participated in income-earning activities increased from Year 1 to Year 3. Most women in the sample worked more hours. However, earnings decreased over the period. We believe that the increased proportion of women participating in income-earning activities over three years can be attributed to the increase in the nation's development programs, NGO training and microcredit loan projects. The increase in the number of hours and the decrease in weekly income may reflect the national economic crisis, which affected the urban informal sector more than income-earning activities in rural areas. Increased competition in the labor market might have also brought about the increased working hours and income decline for women.

Other factors that affected women's income-earning activity participation and earnings included education level, age, and locality. As expected, women with high levels of education earned more and, as a result, were less vulnerable to the economic crisis than women with lower education. Women in the age cohort 15-25, the most dynamic and productive, had the highest positive change in income-earning participation, and women in the older cohorts, worked the greatest number of hours. Furthermore, rural women showed an overall higher participation in income-earning activities than urban women, before we took into account other factors, such as participants' educational level, marital status, material possessions, and time.

Women from urban areas had higher scores than women from rural areas on an income-earning activities participation composite variable that included participation in income-earning activities, plans for expansion, external loans for small income-earning activities, and so forth. These results may indicate that factors, such as access to external loans and possibilities for expanding professionally, provide women in urban areas with greater opportunities for economic participation.

The GWE-PRA study showed clearly that NGO programs have made a difference in the likelihood of women's participation in income-earning activities and the degree to which they participated in these activities, even after factors such as education level, marital status, locality and other unknown factors (measured by the time variable) are taken into account.

7.5 Women's Decision Making, Community Participation and Legal Rights

The literature is replete with definitions of empowerment and descriptions of the importance of empowerment to a country's socio-economic development. One way of defining empowerment is as an internal process that fosters the self-confidence and self-esteem people need in order to achieve their legal, economic, political, educational, health, and human rights. An important element of empowerment is one's ability to contribute to overall social and economic development. The GWE-PRA investigated three aspects of women's empowerment: 1) ability to make decisions; 2) participation in the community; and 3) knowledge of legal rights. An underlying assumption was that positive changes in these areas could be an indication of changes in women's sense of "empowerment."

7.5.1 Research Questions

The following research questions were addressed in this section:

1. Were there any changes in women's decision making capacity, community participation, and knowledge of legal rights over the three-year period?
2. Did women in the experimental group report larger gains in these three areas than women in the control group?
3. What, if any, were the factors that contributed to changes in economic, community, and legal empowerment?

7.5.2 Household Decision Making

Most women in the study reported that they had the freedom to spend the money they earned by themselves. In baseline year (Year 1), the percentage of women in the experimental group who had such freedom was 16 percentage points higher than for women in the control group. But that gap was narrowed to only slightly more than 6 percentage points in Year 3, because a greater proportion of women in the control group reported the freedom to spend their own money.

The GWE-PRA study examined women's participation in decision making during the period. Table 7-34 indicates that women became increasingly involved in making important household decisions over the three-year period. About 72% of the women in the experimental group and 59% of the women in the control group were involved in household decisions concerning children's education spending in Year 1. By the third year, the number of women in both groups who were involved in these decisions increased by more than 14 percentage points. More women in the experimental group made household decisions about spending money on their children's education than women in the control group.

Table 7-34: Women's Decision Making Capacity by Group over Three Years [a]

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3	Year 1	Year 2	Year 3	Year 1-3
Decisions about education spending[b]	72.1	77.1	86.1	14.0	58.5	58.0	73.2	14.7
Decisions about health spending[b]	74.3	76.6	86.1	11.8	57.6	58.9	74.1	16.5
Decisions about family planning[c]	89.3	90.3	95.2	5.9	97.2	92.7	97.2	0.0
Decisions about use of the earned money[b]	60.9	81.7	78.5	17.6	45.1	67.9	72.3	27.2
Decision against domestic violence[b]	17.7	17.0	17.5	-0.2	16.1	11.6	10.3	-5.8

[a] Appendix 1 (Table A7-34) shows the number of cases on which percentages for each year are based.

[b] Percentage was calculated over the whole sample.

[c] Percentage was calculated over the number of women who were using a family-planning method at the time of the interview.

Women were also involved in household decisions about the family's health-care spending. In the experimental group, the number of women who decided on the health spending increased by 12 percentage points from Year 1 to Year 3, while in the control group, it increased by 16.5 percentage points. Although the increase in women's involvement in health-care decisions was larger in the control group than in the experimental group, women in the experimental group were still more likely to be involved in health-care decisions than women in the control group in all three years.

Most women reported that they made the decision to use a family-planning method either by themselves or with their husbands. In fact, the percentage of women who made decisions about the use of a family-planning method was higher than the percentage of women who made decisions on the other two matters mentioned above. Additionally, a higher percentage of women in the control group than in the experimental group made decisions about the use of a family-planning method in all three years. However, only the experimental group had a gain (5.9 percentage points) in the

proportion of women who participated in decisions concerning the use of a family-planning method. No gains were made in the proportion of women in the control group who were involved in family planning decisions.

Domestic violence is a serious problem in Bolivia. Almost 50% of all women in the GWE-PRA study reported that they had experienced domestic violence, and more than 66% had witnessed domestic violence in their communities in Year 1. Despite these alarming numbers, only a small proportion of the women reported the domestic violence incidents they had suffered or witnessed to authorities. When women were asked if they had ever spoken out against domestic violence, about 18% of the experimental group and about 16% of the control group reported that they had openly denounced domestic violence in Year 1. In the third year, the percent of victims of abuse in the experimental group who stood up against domestic violence remained at 18%, while it dropped from 16% to 10% in the control group.

About 70% of the women (in both groups) who were victims of violence stated that the level of violence they experienced did not decline after reporting the incidents. Perhaps because of their failed attempt to combat violence, the proportion of women in either the control group or the experimental group who took further action against domestic violence changed very little over the period. However, about 30% of the women who reported abuse to authorities said that the incidences of violence decreased during the period. This implies that for some victims of abuse, openly taking action against domestic violence may reduce this type of violence against women and children. Since the law against domestic violence was implemented, a judicial process has been in place to assist women or children who report this kind of problem. Depending on the severity of the violence, an abuser may be arrested and jailed. Women's display of courage in openly denouncing domestic violence indicates they had made a firm decision to take as stand against such abuse. It also indicates an awareness of the problem and demonstrates considerable personal courage and empowerment.

7.5.3 Community Participation

Women's participation in community activities was examined as part of an analysis of respondents' decision making. Table 7-35 presents women's responses to questions concerning their community participation, including whether: 1) they belonged to any community organization, 2) they voted to elect a local organization's leader, and 3) they participated in any community or group activities.

Table 7-35: Community Participation by Group over Three Years[a]

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Chng.	Year 1	Year 2	Year 3	Year 1-3 Chng.
Belonged to any community organization	36.3	51.5	58.5	22.2	22.8	14.7	27.2	4.4
Voted for local organization's leader	77.8	80.8	88.6	10.8	61.7	72.0	63.9	2.2
Ever participated in community or group activities	48.0	51.0	58.7	10.7	33.5	35.7	43.3	9.8

[a] Appendix 1 (Table A7-35) shows the number of cases on which percentages for each year are based.

This table shows that women in the experimental group were more likely to be involved in community activities (on all three of the variables measured) than women in the control group. Also, over three years, the percentage of women in the experimental group who were involved in these activities increased more than for the control group. It appears that women's participation in NGO programs contributed to the likelihood of their participation in local community activities.

7.5.4 Legal Awareness

Several questions were asked to determine the extent of the respondents' awareness of their rights concerning key legal issues. Table 7-36 indicates that experimental and control group women had an overall decrease in legal awareness over the period. However, women in the experimental group showed an increase in knowledge of laws against violence. It is important to note that most NGO programs did not have a component focusing on legal rights issues in their curriculum. Only Gregoria Apaza dedicated a large portion of its program to this subject (24%). The decline in knowledge of legal rights may be an indication that women forgot about some of the laws they were aware of in Year 1 or they misinterpreted the question. It is likely that women were more aware of new laws that had just gone into effect in Year 1 of the study.

Table 7-36: Legal Awareness by Group over Three Years

	Experimental Group (%)				Control Group (%)			
	Year 1	Year 2	Year 3	Year 1-3 Chng.	Year 1	Year 2	Year 3	Year 1-3 Chng.
Have you heard of any laws to protect women and children:								
against violence?	78.0	71.5	80.2	2.2	71.0	58.9	67.0	-4.0
against discrimination?	67.6	46.6	45.5	-22.1	59.4	38.8	32.1	-27.3
at work?	57.5	37.4	39.5	-18.0	50.0	38.8	30.8	-19.2
Have you heard of the Popular Participation Law?[a]	70.4	64.2	63.3	-7.1	68.3	56.7	61.6	-6.7
Total n	717	717	716		224	224	224	

[a] In Bolivia, the Law on Popular Participation became the first Bolivian law to incorporate, in an explicit manner, the principle of equal opportunities for men and women. It demands equal participation and makes compulsory the incorporation of women's needs in municipal plans.

7.5.5 Summary of Women's Decision Making, Community Participation and Legal Rights

The proportion of women participating in household decisions concerning educational spending, health-related spending, and the use of self-earned income increased in both the experimental and the control group over the three-year period. However, only the experimental group experienced a gain in the proportion of women who were involved in decisions about the use of family-planning methods. Both groups experienced decreases in the number of women who made the decision to take a stand against domestic violence.

Similarly, the number of women in both the experimental and the control group who were participating in community activities increased over the period. However, women in the experimental group showed larger gains than the control group women. Women in both groups showed a decline in knowledge of legal rights, but it is important to note that legal awareness was not part of all NGO programs. Only Gregoria Apaza included a strong legal knowledge component in its program.

Data suggest that increased participation in the labor market might have empowered women to make more household decisions related to spending and overall community participation over the period. We did not collect data that allowed us to determine the extent to which NGO programs influenced women's sense of empowerment. Even though most programs included at least some form of decision making/empowerment component, the experimental group had a smaller increase in the proportion of women involved in finance-related decision making than the control group. On the other hand, women who participated in NGO programs were more likely to make decisions about the use of a family-planning method and were more likely to participate in community activities. Their gain in family planning decision making was very encouraging, given the fact that, in Bolivia, family planning presents several challenges, particularly among indigenous populations. Poverty, low educational levels, cultural beliefs, and social disapproval are factors that contribute to the gap between desired fertility rate (2.7 births per woman) and actual fertility rate (4.2 births per woman) (Terborgh, et al., 1995; Instituto Nacional de Estadística y Macro Internacional, 1998). Large families are valued among indigenous communities and when women choose to have small families they risk being criticized and ostracized by family and community members.

The influence of NGOs on women's participation in decisions related to reproductive health issues might have a very significant impact on Bolivia's socio-economic development over the period. Women do make important household decisions in educational spending, health-related spending, birth-control method, spending self-earned income, and denunciation of domestic violence. For all five decision areas examined in this section, most of the decisions were made by women, either alone or with their husband. We hypothesized that women's increased participation in the labor force contributed to women's decision making power. As Kishor (1996) pointed out, working for cash is more likely to translate into autonomy and empowerment for women than not working or not being paid for working. Kishor's study also underscored the importance of women's labor force participation for the independence and status of women, for lowering unwanted fertility, and for the achievement of development goals. In short, participation in paid employment has several positive externalities that expand beyond an increase in individual income.

While a large proportion of women in the study were involved in household decisions about education and health spending, family-planning methods and spending their own money, a smaller percentage of women were willing to stand up against domestic violence, even though very prevalent in Bolivia. Challenges remain in helping more women in Bolivia make important household decisions in education, family and reproductive health. Their civil, legal, and financial management knowledge also needs further strengthening.

7.6 Social and Economic Development

As explained in the methodology section, the aim of the study was to examine the impact of integrated literacy and basic education programs on the participation of women in the country's social and economic development. This study focusedd on a sample of women participating in five programs. Built into the research design was the assumption that changes in the participants' knowledge, attitudes and practices would ultimately result in changes in the larger society.

In this chapter, findings are reported that demonstrate how integrated literacy and basic education programs in Bolivia have exerted an impact on women's lives by "imparting skills and fostering other individual changes that alter women's patterns of social participation." (Levine, Levine, and Schnell, 2001). Across the short span of three years (1998-2000), many positive changes were noted in women's awareness of and behavior in education, health, economic and community participation, legal right issues, and empowerment. The major question is whether the integrated literacy and basic education programs for women contributed toward improvements in their personal development (private returns). Addressing the question required the development of a single, reliable measure of the combined indicators of social and economic development and then analyses of the multivariate effects of potential program and alternative contributors.

The following final research questions were addressed:

1. Has development of respondents (private returns) in the study improved over three years?

2. Do the integrated literacy and basic education programs have a significant effect on the participants' development, after controlling for women's characteristics, household factors, and other important factors?

7.6.1 Index of Social and Economic Development

In this multi-year study, the development of a valid and reliable scale of social and economic development was essential to assess salient influences and relationships that improve social and economic conditions for women. While the concept of creating an index was simple, the challenge of constructing a sensitive and comprehensive index for individual economic development was enormous, even though carefully planned in the early design stage of the project.

The final index[22] consisted of a composite of key areas of indicators, such as literacy education, family and reproductive health, income-earning activity, household decision making, community participation, and legal rights. This index was intended to indicate the overall social and economic development of each group. A high score on the index means high social and economic development and a low score indicates low development.

[22] The index is constructed with 56 non-weighted variables related to women's knowledge, attitudes and behavior with respect to health, reproductive health, literacy and education, income-earning activities, legal rights, decision making, and community participation. The index score is normally distributed with a skewness statistics at –0.11. The estimated alpha of reliability is 0.91.

Table 7-37 shows the index statistics in the experimental and control group and in rural and urban locations over three years.

Table 7-37: Index Score of Social and Economic Development by Group, and Location over Three Years

	Overall Index Score[a]			Overall Gain Score		
	Year 1	Year 2	Year 3	Year 1-2 Change	Year 2-3 Change	Year 1-3 Change
By Group:						
Control	22.9	24.3	25.4	1.4	1.1	2.5
Rural	16.2	15.8	19.1	-0.4	3.3	2.9
Urban	27.9	30.6	30.1	2.7	-0.5	2.3
Experimental	28.6	32.0	32.4	3.4	0.4	3.8
Rural[b]	22.9	25.2	27.0	2.3	1.8	4.1
Urban[c]	32.5	36.6	36.2	4.1	-0.5	3.6
By NGO:						
Gregoria Apaza	30.8	34.2	34.3	3.4	/0.1	3.5
Pro Mujer	33.8	38.8	37.0	5.0	-1.8	3.2
PLAN Internat'l	18.3	18.0	20.8	-0.3	2.8	2.6
CRECER	31.0	36.0	37.4	5.0	1.4	6.4
NGO Partnership:						
PLAN/CRECER	22.5	24.7	26.1	2.2	1.4	3.6
Total n	941	941	941			

[a] Based on a maximum of 56 items.

[b] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[c] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

In Year 1, the experimental group was almost 6 points higher on the index than the control group, with index scores of 28.6 and 22.9, respectively. This gap widened in Year 2, reflecting a larger gain for the experimental group (3.4 points) than for the control group (1.4 points), although both groups made some progress in participation in social and economic development. But, in Year 3, progress was much slower, with a 1.1 point gain by the control group and a 0.4 point gain by the experimental group. In short, by Year 3, the gap between the experimental and the control group on the index remained large, at 7 points.

In addition, rural women had a lower score than urban women in all three years. In Year 3, for example, as in Year 1, the difference between the control group women in rural and urban areas was 11 points. In the experimental group, the difference was almost 9 points. Specifically, women in rural NGOs, PLAN and PLAN/CRECER, had the lowest socio-economic index scores in years 1-3. PLAN also had the lowest overall gain score over the period (2.6 points). CRECER showed the highest overall index score increase (6.4 points).

7.6.2 SES Profiles

For the analysis of the impact of SES on women's development (private returns) at baseline (Year 1), we divided women in the sample into four groups (quartiles), based on their relative SES ranking, using an SES proxy measure–household material possession composite (0-14 points). The lowest quartile of the SES consisted of 244 women (92 from the control group and 152 from the experimental group), with SES scores under 5.0. For comparison purposes, we also computed the index score for the highest quartile group–women who scored 9 or above. A total of 251 women (39 from the control group and 212 from the experimental group) belonged to the highest quartile group. Table 7-38 shows how these two groups (the lowest and highest quartiles of the SES proxy) improved from Years 1 to 3, in the index of social and economic development.

Table 7-38: Overall Index Score Differences between the Lowest and Highest Quartile Three Years

	Overall Index Score (56 points)			Overall Gain Score		
	Year 1	Year 2	Year 3	Year 1-2 Change	Year 2-3 Change	Year 1-3 Change
Lowest Quartile						
Control (n=92)	13.0	15.5	18.4	2.5	2.9	5.4
Experimental (n=152)	15.4	21.1	22.4	5.7	1.3	7.0
Highest Quartile						
Control (n=39)	34.8	34.7	33.6	-0.1	-1.2	-1.2
Experimental (n=212)	37.7	39.5	39.4	1.8	-0.2	1.7

Women in the lowest SES group had a larger "gain" in SES index scores than women in the highest SES group over three years. Within the lowest and the highest quartiles, women in the experimental group had a larger gain than women in the control group. The larger gains made over the period by the women in the lowest quartile suggest that the most disadvantaged women were able to "catch up" socially and economically over time. The difference between participants and non-participants in the integrated literacy and basic education programs also demonstrated that integrated literacy and basic education programs helped to improve private returns to women, regardless of their SES levels.

Women's SES and participation in the integrated literacy and basic education programs may be interrelated and result in covariate contribution to the improvement in the social and economic development index. Although we cannot disentangle the effects of SES and the integrated literacy and basic education programs, a multivariate analysis in Section 7.7.3 better elucidates the relationship between these two measures.

An additional important question in the research was whether location (urban and rural) or formal education level were significant factors associated with the improvement of social and economic development. To answer this question, we compared two sets of means.[23] In both rural and urban

[23] A t-test was conducted to compare composite means in urban and rural areas and an ANOVA test was calculated for education levels.

areas, the social and economic development index improved. By the third year (2000), the index score for the women in rural areas improved from 22.8 to 26.8 points, an 18% increase. For the women in urban areas, the index score improved from 33.3 to 36.7 points, a 10% increase. Interestingly, most of the "gains" for the rural women occurred between Years 2 and 3. But all the "gains" for the urban women occurred between Years 1 and 2. Whether this could be a delayed effect for the rural women is yet to be tested.

Table 7-39 shows that women experienced an improvement on this index, regardless of their educational level. The general trend seemed to be that women with no or lower education made larger gains than women with higher education. Hence, women with no education may benefit the most from the integrated literacy and basic education programs. These results suggest that, while the gains for the more educated groups tapered off between Years 2 and 3, the gains for the uneducated women and women with lower levels of education, continued to be in evidence.

Table 7-39: Overall Index Score and Gains by Location and Educational Level

	Overall Index Score(56)			Overall Gain Score		
	Year 1	**Year 2**	**Year 3**	**Year 1-2**	**Year 2-3**	**Year 1-3**
Location						
Rural	21.2	22.9	25.0	1.7	2.1	3.8
Urban	31.4	35.2	34.8	3.8	-0.4	3.4
Education Level						
No Education	18.9	22.1	23.1	3.3	0.9	4.2
Primary	27.0	29.4	30.2	2.4	0.9	3.2
Secondary	30.7	34.0	34.3	3.3	0.3	3.6
Post-secondary	37.3	38.8	39.5	1.6	0.7	2.3

7.6.3 What Factors May Boost Social and Economic Development?

These bivariate analyses helped to determine whether significant differences exist among groups, for example, between the experimental and control group, among education levels, or between urban and rural groups. However, such analyses by themselves are insufficient to explain relationships among factors that contribute to variability in social and economic development. To examine the inter- and intra-relationships among multiple factors with social and economic development, over the period, we developed an "explanatory" model. The aim was to determine whether social and economic development can be predicted by these important factors. The statistical regression function is represented in the following explanatory model:

$$S = a+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+e$$

S, Index of Social and Economic Development
a, Intercept (or constant)
b_n, Coefficients (or slopes) associated with X_n
X_n, Factors that may explain a portion of the variance of S
e, A leftover portion of the variance of S that can not be explained by X_n in the model.

The regression model included six key factors:

1. Group (experimental and control),
2. Education level,
3. Marital status,
4. Location (rural and urban),
5. Home SES score, and
6. Time/years.

The most critical factor for this model was, of course, the "group" variable, which indicates the effect of the combined integrated literacy and basic education programs in the context of several other factors that also affect outcome (see Table 7-40).

Table 7-40: Factors that Explain the Overall Index of Social and Economic Development

	slope coefficient	s.e.	t-statistics	p-value
Constant value (or intercept)	3.876	0.513	7.562	0.000
Group (experimental=1 and control=0)	**5.944**	**0.312**	**19.075**	**0.000**
Women's education level[a]	3.077	0.206	14.954	0.000
Marital status (yes=1, no=0)	3.404	0.313	10.866	0.000
Locality (urban=1, rural=0)	4.758	0.323	14.735	0.000
Home material possession score (0-14)	1.486	0.061	24.289	0.000
Time/years (0=baseline, 1=Year2; 2=Year3)[b]	1.191	0.163	7.330	0.000
R-square	0.550			
F-statistics	574.508			
p-value (model)	0.000			

[a] Women's education level was categorized into four levels, 0 = no education, 1= primary school level (grades 1-5), 2 = secondary level (6-12), and 3 = education beyond grade 12.

[b] Time/years is treated as a continuous variable and used to calculate average growth on an annual basis.

In the above explanatory model,[24] 55% of the total variance (R-square = 0.55) in the social and economic development index was "explained" by the six factors in the model. Each factor in the model significantly contributed to explaining the results, controlling for other factors (all p-values = 0). Results from this model led to the conclusion that, within three years (1998-2000), women who participated in the integrated literacy and basic education programs made significantly more progress in the index of social and economic development than women who did not participate in these programs, even when other significant factors (effects) were controlled for, such as location, educational level, household material possession index, marital status, and time/year.[25] Considering

[24] Two interaction variables that were added to the above model were also examined: interaction term between "group" and education level, and interaction term between "group" and "locality." None could significantly explain the "left-over" variance in the overall composite score (associated p-values for the two coefficients are 0.77 and 0.67 respectively).

[25] Year 1 to Year 3 gains were often larger for the composite measures than for individual variables. Program impact was much more evident when variables were examined in combination with each other, rather than individually. This is likely because of the interaction among multiple variables measuring a single construct.

other significant factors, we concluded that a woman who participates in one of the NGO programs will achieve, on average, 10.6 percentage points more than a woman who does not participate. The net effect of the integrated literacy and basic education programs is highlighted in Figure 7-1.

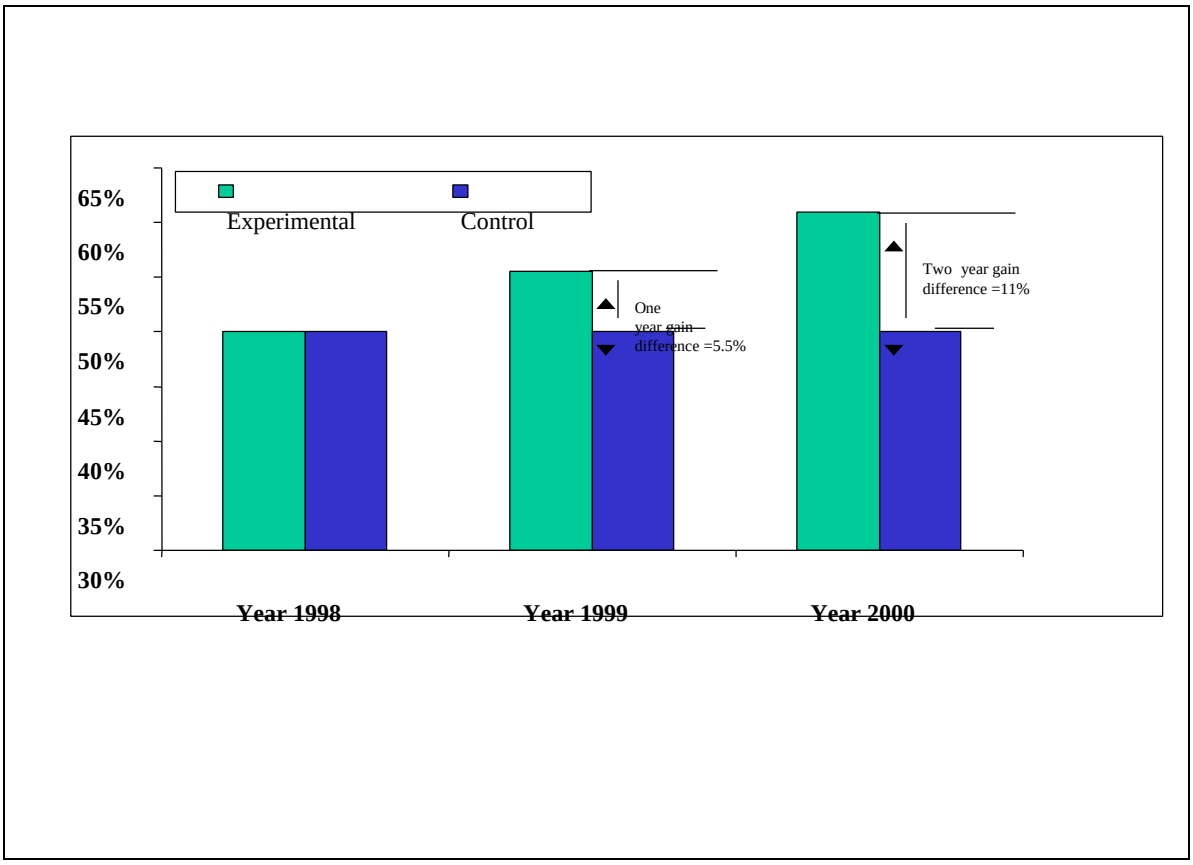


Figure 7-1: Net Effect of the Integrated Literacy and Basic Education Programs on Social and Economic Development between 1998-2000, Considering All Other Factors Equally

Two additional points should be mentioned. First, the gap in social and economic development between rural and urban women remained large, even when factors, such as educational level, household possessions, participation in the integrated literacy and basic education programs, and others were controlled for. We found that women in rural areas can be expected to score 8.5 percentage points lower than the women in urban areas. Second, marriage seems to be an important factor in improving women's social and economic status. The difference between married and single women in the index was almost 6 percentage points, after all other significant effects, such as participation in the educational programs, location (rural and urban), women's educational level, household possession, and time were partialed out.

Holding constant other factors in the model, such as education level, marital status, locality, home material possessions, and time/year, the estimated average difference between the experimental and

the control group in the index of social and economic development was 11 percentage points (5.5 percentage points, annually). By Year 2 (1999), a woman who participated in one of the integrated literacy and basic education programs can be expected to obtain 5.5 percentage points more, on average, in social and economic development than a women who did not participate in a program. By Year 3 (2000), the same woman would continue to obtain an additional 5.5 percentage points, totaling 11 percentage points higher than non-participants in two years. This graph highlights a net effect of the integrated literacy and basic education programs on social and economic development within three years, even after considering other key factors equally.

It was further confirmed that level of formal education, marital status, location (urban and rural), household socio-economic status, and time/year have a significant impact on social and economic development. For example, for each additional level of education that a woman attains (primary, secondary, and post-secondary), she can expect to score, on average, 5.5 points (3.1 percentage points) higher in the index of social and economic development than less educated women. Married women also can expect to score 6 points (3.4 percentage points) higher than unmarried women on the index of social and economic development. The time variable in the model indicated that every year, during the past three years, the participants' performance on social and economic indicators measured in the study improved by 2 points (1.2 percentage points).

In summary, the results clearly confirmed that women who participated in the integrated literacy and basic education programs in Bolivia showed a larger improvement in their index score than women who did not participate in the programs. The net gain (11 percentage points) of the participants over non-participants, considering all other things equally, indicates a significant investment return. These findings are graphically illustrated in Figures 7-2 and 7-3.

Figure 7-2 illustrates the cumulative effect of the integrated literacy and basic education programs on an individual woman, taking other factors into account. The leftmost column depicts the individual contribution of a woman's marital status, urban rural location, education level, and socio-economic status, irrespective of her participation in an integrated literacy and basic education program to the composite measure of social and economic development. The rightmost column depicts the added effect contributed by a woman's participation in one of the NGO programs examined in the study.

Figure 7-3 shows the contribution of each indicator to the overall model. As shown, the greatest impact was demonstrated in indicators related to income-earning activities, health and community participation. These areas coincided with the main focus of the NGOs' programs, as illustrated in the discussion that follows.

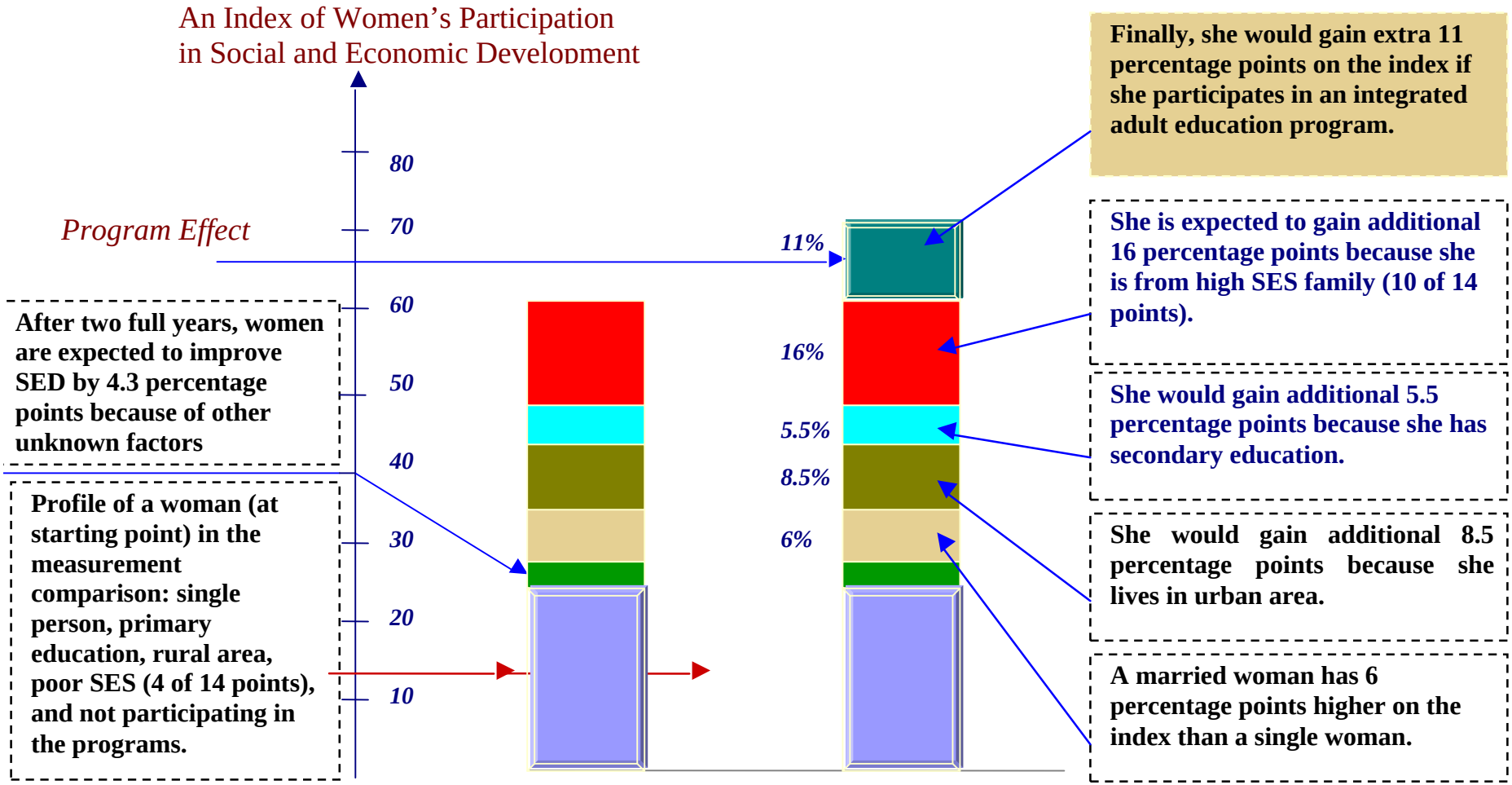


Figure 7-2: Effect of Integrated Literacy and Basic Education Programs on Women's Participation in Social and Economic Development in Bolivia

Girls' and Women's Education, Policy Research Activity (GWE-PRA) with funding from USAID
World Education, Inc., Harvard Graduate School of Education, Education Development Center, Inc.

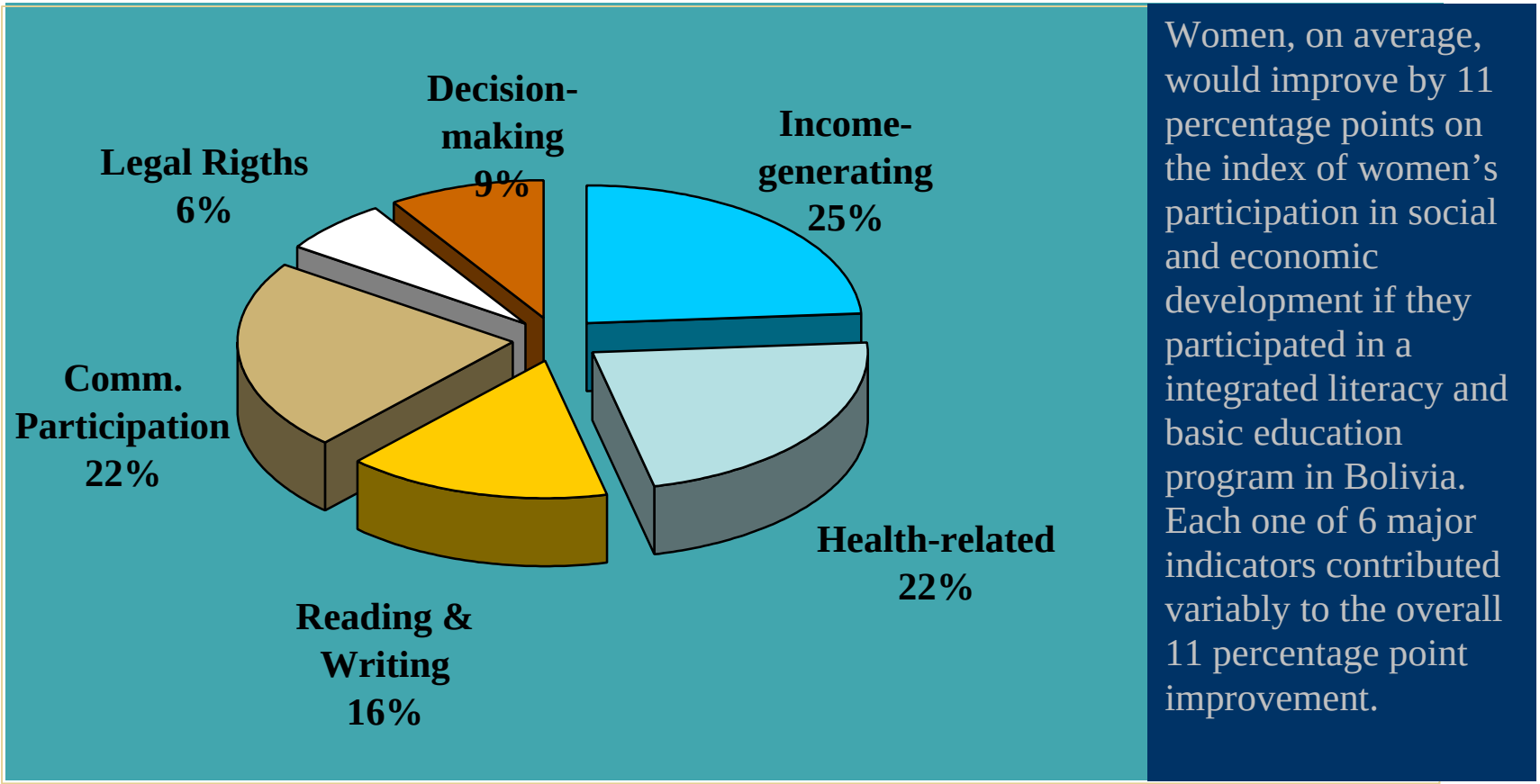


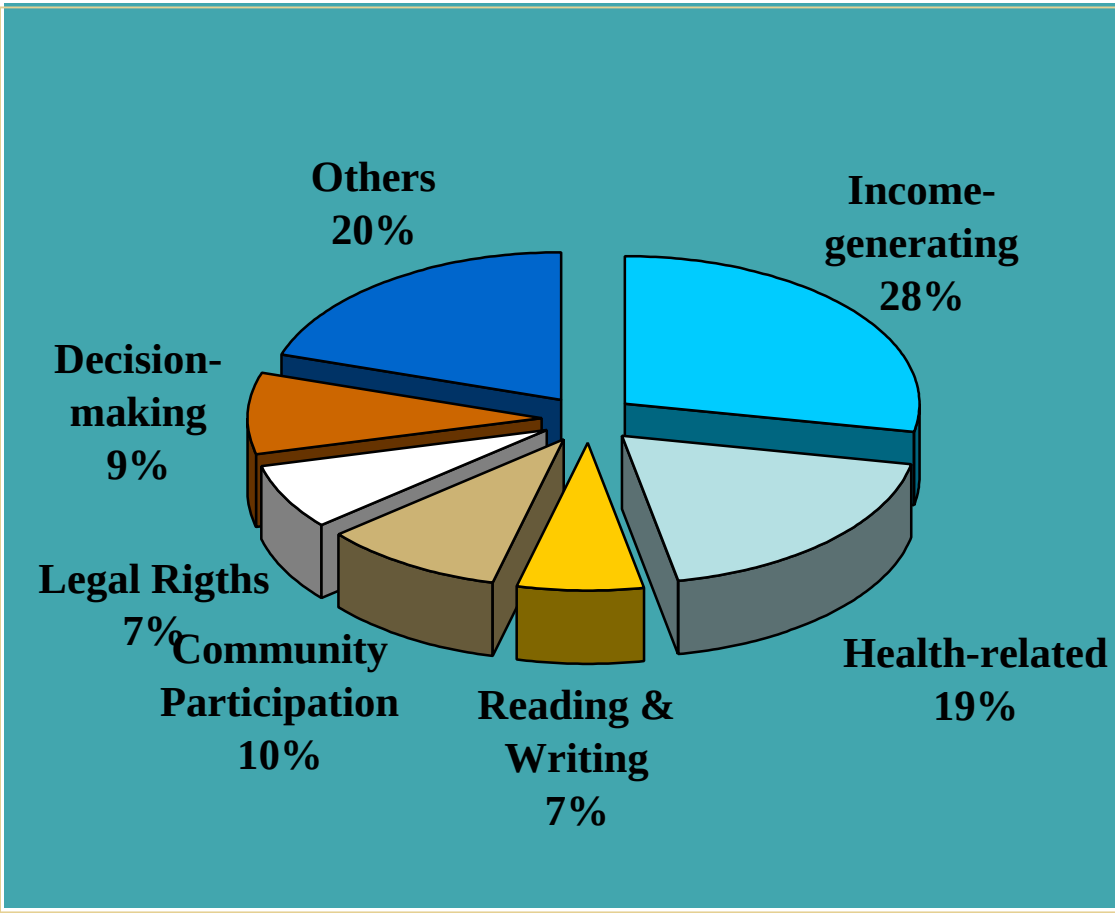
Figure 7-3: Indicator Contributions to the 11% Point Gain in the Index

7.7 What Elements of the Integrated Literacy and Basic Education Programs Contribute to the Impact on Social and Economic Development?

Many factors play a role in determining the extent to which programs have an impact on their recipients. In this study, two factors, in particular, were found to contribute to the significant impact of the integrated literacy and basic education programs on women's participation in social and economic development: 1) program length and focus; and 2) facilitators responsible for program delivery.

7.7.1 Program Content

NGO representatives of the programs in this study were asked to estimate the percent of time their organization spent on training in each area. Figure 7-4 shows the percentage of time and resources that the NGOs collectively allocate to each indicator area. The graph in Figure 7-5 shows the side by side comparison of the contribution of each indicator to social and economic development and the program focus in each indicator area. These graphs clearly illustrate the relationship between investment in specific areas of program content and improvements in indicators related to those areas.



Although all training programs have a positive effect on women's participation in social and economic development, more focus on specific area of social and economic development in training lead to greater improvement in that particular area. Training in income-earning activities and health-related issues are especially evident in Bolivia.

Figure 7-4: Percentage of Training Focus for All NGOs

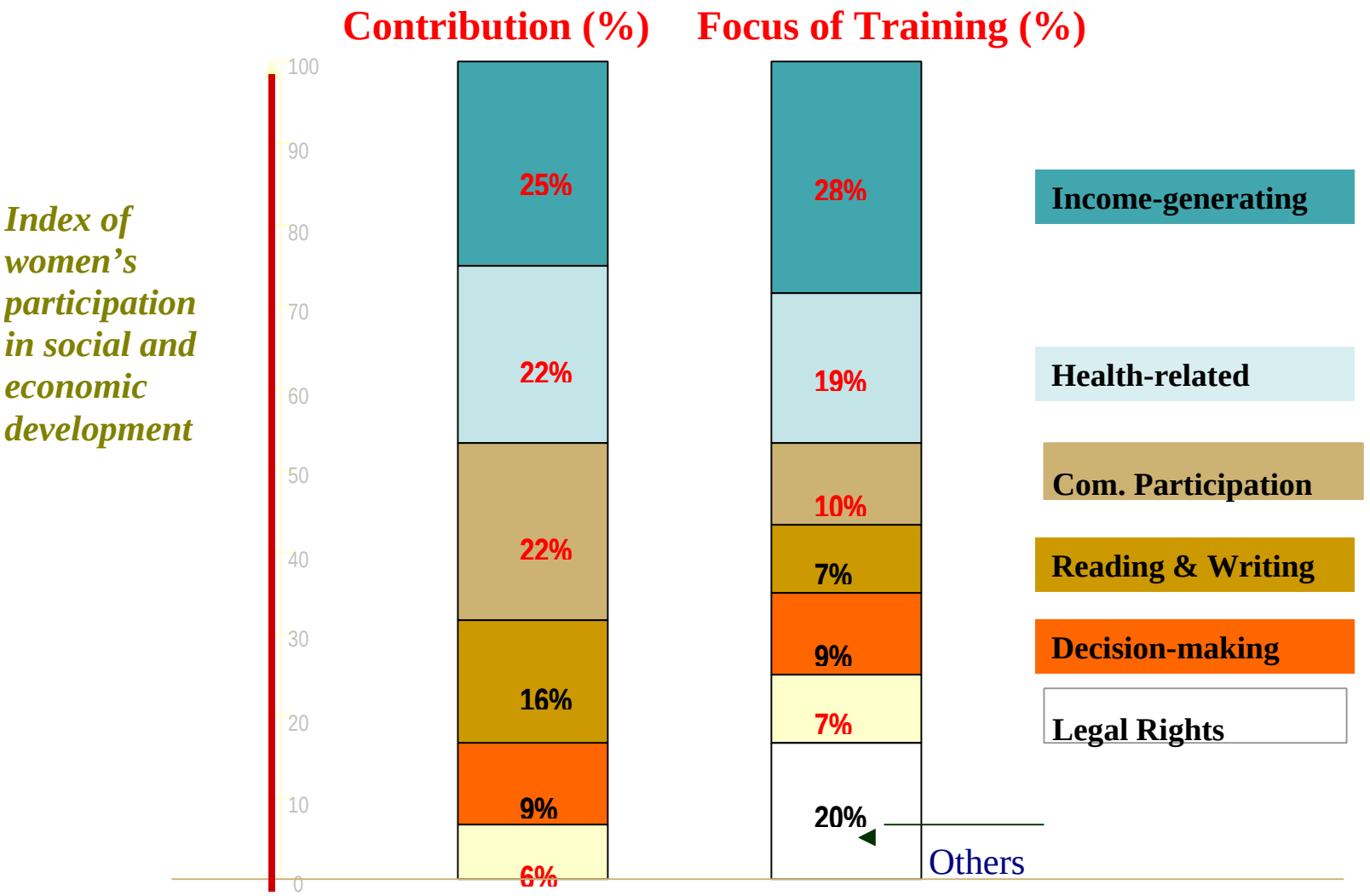


Figure 7-5: Area of Contribution to SED Improvement and Focus of Training

Girls' and Women's Education, Policy Research Activity (GWE-PRA) with funding from USAID
World Education, Inc., Harvard Graduate School of Education, Education Development Center, Inc.

Table 7-41 depicts the estimated percentage of time allocated to each content area by each NGO. As shown, Pro Mujer has allocated the greatest amount of training time to income-earning activities or small business enterprise (60%), while PLAN allocated the least time that subject area (10%). However, Pro Mujer only focuses 5% of its program on training related to improving children's education, while PLAN focuses 35% of its program on that topic. Each of these NGOs has a very different program focus.

Table 7-41: Training Program Focus by NGO

	Pro Mujer	**Gregoria Apaza**	**PLAN**	**CRECER**	**PLAN/ CRECER**
Content					
Income-Earning	60%	18%	10%	30%	20%
Health	15%	0%	15%	40%	25%
Reading & writing	0%	6%	5%	20%	5%
Community participation	10%	28%	5%	0%	5%
Legal rights	0%	24%	5%	0%	5%
Child's education	5%	0%	35%	0%	25%
Empowerment/decision making	10%	24%	0%	10%	0%
Others (sewage/water)	0%	0%	25%	0%	15%
Index Baseline Score					
(Year 1) Overall Average Score	30.79	33.82	18.29	31.00	22.52
Income-generating	1.99	4.69	1.46	4.08	3.40
Health [a]	12.44	11.57	5.08	10.65	5.22
Reading & writing	5.60	4.81	2.96	4.08	3.68
Community participation	2.07	2.92	2.04	3.33	2.87
Legal rights	5.54	5.56	3.35	4.92	3.60
Empowerment/decision making	3.14	4.26	3.40	3.96	3.75
Estimated Gain Index Score					
(NGO Coefficients)	8.65***	4.28***	0.88	10.02***	5.95***
Income-Earning	2.64***	0.29**	0.18	2.17***	1.78***
Health [a]	2.13***	1.49***	-0.71*	3.38***	0.46
Reading & writing	1.05***	1.08***	0.54***	0.98***	1.04***
Community participation	1.50***	0.60***	0.74***	2.09***	1.76***
Legal rights	0.63***	0.57***	-0.15	0.66***	0.19
Empowerment/DM	0.70***	0.25**	0.29**	0.75***	0.74***

* p-value <0.05; ** p-value <0.01; ***0.001.

[a] The final indicator, "health," consists of three composites (21 items), 1) health practices, 2) knowledge of birth-control methods, and 3) knowledge of STIs. Children's health was not included in the composite because not all women had children. Each other indicator consists of a 7-item composite.

It is important to explore the interrelationships between the different categories of data shown. For example, consider the link between the amount of time that NGOs allocate to a given subject and participants' improvement on indicators related to those substantive areas. As shown on the above table, CRECER had the highest percentage of time committed to health-related training among all NGOs (40%). Women in CRECER also had the largest net gain (3.38 points) on the health and

reproductive health composite described in Section 7.3.3. This represents a 32% increase over the 10.65 composite score at baseline (also the largest among all NGOs). Similarly, Pro Mujer, which allocates 60% of its training resources to income-earning activities (the largest percentage among all NGOs) gained 2.64 points on the estimated gain index[26] in the income-earnings activities composite (see Section 7.5.5). This represents a 75% increase over the composite score in Year 1, the baseline year (1.99).

In other areas, such as legal rights, there is no evidence of a significant relationship between program focus and program effect. However, bear in mind that the only NGO that allocates a substantial time to activities related to legal rights is Gregoria Apaza (24%), which showed only minimal increases in that area (0.57 points).

7.7.2 Program Facilitators

Table 7-42 shows that facilitators play an important role in the quality of integrated literacy and basic education programs. For the NGOs examined in this study, female facilitators seemed to do a "better job" than male facilitators in bringing about the desired training outcomes, even when other factors were controlled for. On average, women who were taught by female facilitators scored almost 1.4 points higher on the social and economic index than women who were taught by male facilitators. This suggests that employing female facilitators could improve program success, other things being equal.

Table 7-42: Facilitator's Overall Socio-Economic Index

	slope coefficient	***s.e.***	***t-statistics***	***p-value***
Constant value (or intercept)	28.811	1.708	16.868	0.000
Facilitator's gender (0=male, 1=female)	1.374	0.398	3.456	0.001
Facilitator's age	0.104	0.032	3.251	0.001
Facilitator's monthly income	0.001	0.000	1.609	0.108
Facilitator's opinion (0-42)	-0.167	0.035	-4.763	0.000
Facilitator's educational Level (1-7)	-2.550	0.252	-10.121	0.000
Women's locality (Urban=1, Rural=0)	4.594	0.427	10.755	0.000
Women's home material possession score (0-14)	1.717	0.072	23.804	0.000
Women's time/years (0=baseline, 1=Year 2; 2=Year 3)	1.436	0.192	7.463	0.000
R-square	0.517			
F-statistics	273.537			
p-value (model)	0.000			

[a] Facilitator's Educational Level: 1 = No education, 2 = Primary school, 3 = Middle school, 4 = High school, 5 = Technical studies, 6 = Teacher's College, 7 = University

[26] All estimated gains were calculated after taking into account other important factors such as geographic location, marital status, household SES proxy, formal education level and time.

It was surprising that facilitators' level of education was negatively correlated with program outcomes, after other factors were controlled for. Findings on the measure of facilitators' qualifications indicated that higher participants' index scores on the SES measures tended to be associated with facilitators with less education. One possible explanation might be that mobility and job opportunities are available to facilitators who are well qualified. Facilitators with high education levels might leave the programs because they are offered better positions elsewhere. Facilitators with lower qualifications might be more persistent and more willing to work with women in a consistent manner, earning their trust and cooperation. Facilitators' age, income, and opinions about the program did not have a substantial impact on the outcome of the integrated literacy and basic education programs.[27]

[27] Their slope coefficients are very small although they are all significant.

8. CONCLUSIONS AND IMPLICATIONS FOR POLICY

8.1 General

This research assessed the social and economic impact of integrated literacy and basic education programs of four NGOs and an NGO partnership in Bolivia. Among the indicators examined were: 1) literacy and education; 2) children's education; 3) health and reproductive health; 4) participation in economic activities; 5) household decision making; 6) community participation; and 7) awareness of legal rights. Indicators in each of these areas were examined individually, as well as together in composite measures.

? Overall, GWE-PRA research found that the NGO programs examined did have a significant impact on women's social and economic development. Moreover, we concluded that women who participated in the integrated literacy and basic education programs in Bolivia showed a larger improvement during the period than women who did not participate in these programs. *Hence, we concluded that funding for these types of programs should be continued.* More specifically, when the composite index was examined, we found that, even when taking into consideration other factors, such as education level, marital status, locality, home material possessions and time/year, the estimated average difference between the experimental and the control group in the composite index of social and economic development is 11 percentage points (5.5 percentage points annually). By Year 2 (1999), a woman who participated in one of the integrated literacy and basic education programs would obtain 5.5 percentage points more, on average, in social and economic development than a women who did not participate in a program. By Year 3 (2000), the same woman would continue to obtain an additional 5.5 percentage points, totaling 11 percentage points higher than non-participants in two years.

? Additionally, other factors, such as level of formal education, marital status, location (urban and rural), household socio-economic status and time/year were found to have a significant impact on social and economic development. For example, for each additional level of education, a woman obtains (primary, secondary, and post-secondary), she can expect to score, on average, 5.5 percentage points higher in the index of social and economic development than less educated women. Married women also made greater gains than unmarried women on the index of social and economic development. Time was also a factor affecting outcomes.

? Findings revealed that areas of indicators in which NGOs have made substantial investment of resources (time, program focus, and training) have resulted in significant gains in women's social and economic development. *Therefore, it is essential for Government, donors, and NGOs to prioritize their goals and target resources toward achieving these goals.*

? In examining factors contributing to the 11 percentage point gain in social and economic development (the pieces of "pie"), we found that certain areas of indicators were not sufficiently supported, and hence, did not significantly contribute toward development gains. *Priority should be given to selecting areas that deserve greater attention in the next phase of program*

development. For example, consideration should be given to investing additional resources in areas such as legal rights, decision-making, and children's education.

? Involvement of in-country researchers, NGO staff, and other stakeholders in every aspect of policy research from initial design to the final analysis is essential to local capacity building, as well as addressing relevant research issues and producing studies that more likely to be used by policy makers and program planners.

? The use of locally developed materials that are relevant to the local context (such as those developed by the four NGOs) is an important ingredient of effective program delivery.

8.2 Literacy and Children's Education

When indicators were examined individually, gains were found on some of the indicators for women in the NGO programs that were significantly larger than for those who did not participate. For example, participants in the integrated literacy and basic education programs showed greater gains in their reading skills than did non-participants. Similarly, the number of women in the NGO programs who were able to help their children with secondary-level homework also increased more than for non-participants. However, few of the women in the study were reading to their young children. It appears that the NGOs programs had little impact on women's involvement in their children's school (by visiting or asking about their children's performance). Additionally, it seems that whether or not women were participating in these programs, when faced with difficult economic times, their daughters were more at risk having to drop out of school than their sons.

For NGO programs to have a significant impact on children's education, it is necessary to include specific activities that emphasize the importance of reading to children at an early age and reinforce the value of educating children, particularly girls. Additionally, integrated literacy and basic education programs should be more closely linked with the formal education system.

For example, it is likely that the impact of integrated and basic education programs could be increased by developing activities that include: 1) interacting with children's teachers or school programs; 2) using role playing to help parents practice how to speak to their children's teachers; and 3) involving both parents and children in the literacy classes. Additionally, the content of the curriculum in these programs could be improved by stressing the importance of children's education and teaching parents how to become actively involved in their children's schooling, how to help children with their homework, and how to provide encouragement and support aimed at improving their children's performance and persistence in school.

Other policy recommendations include: 1) providing incentives for women to stay longer in NGO programs. This will promote longer exposure to literacy materials and provide additional practice in reading and writing skills; 2) promote incentives for women to return to the formal school system.

8.3 Income-Earning Activities

The overall number of women who participated in income-earning activities increased from Year 1 to Year 3. Most women in the sample worked more hours. However, actual earnings during the period decreased. We believe that the increased percentage of women participating in income-earning activities over three years can be attributed to the increase in the nation's development programs, NGO training and microcredit loan projects. The increase in the number of hours and the decrease in weekly income may reflect the national economic crisis, which affected the urban informal sector more than income-earning activities in rural areas. Increased competition in the labor market may have also been a factor contributing to the increased working hours and drop in income for women.

Other factors that affected women's income-earning activity participation and income include education level, age, and locality. As expected, women with high levels of education earned more and, as a result, were less vulnerable to the economic crisis than women with lower education. Women in the age cohort 15-25, the most dynamic and productive, had the highest positive change in income-earning participation, and women in the older cohorts worked the greatest number of hours. Furthermore, rural women showed an overall higher participation in income-earning activities than urban women, before other factors were taken into account, such as participants' educational level, marital status, material possessions, and time.

When several economic participation variables were combined together into a composite variable? which included participation in income-earning activities, plans for expansion, external loans for small economic activities, and so forth? it was found that women from urban areas had higher degrees of economic participation than women from rural areas. These results may indicate that, because of their greater access to external loans and possibilities for expanding professionally women in urban areas have greater opportunities for economic participation.

Study findings show that NGO programs made a substantial difference in the likelihood of women's participation in income-earning activities and the degree to which they participated in these activities. These benefits were significant, even after controlling for factors such as education level, marital status, locality, and other unknown factors (measured by the time variable).

Recommended actions include: 1) expand the provision of external loans and business opportunities for women in rural areas; 2) expand NGOs' income-earning activities in curriculum development in rural areas.

8.4 Family and Reproductive Health

Improvements in health-related knowledge and behavior were greater for women who attended integrated literacy and basic education programs than for women who did not receive any literacy and basic education or health-related training. For example, women in the experimental group showed more positive changes than women in the control group in their practices related to seeking medical help for themselves and for a sick child. These women were more likely to adopt preventive health measures discussed in the NGOs' health-related programs, such as immunization

against common childhood illnesses. Additionally, women in the experimental group showed a higher overall gain in knowledge of family-planning methods and a larger increase in interest in using family-planning methods than women in the control group. However, even though the overall outcomes related to reproductive health were promising after three years, and the number of women reporting that their use of family-planning methods increased over the period, three years is not sufficient to confirm significant changes in actual use of family-planning methods or fertility rate.

Programs with a health component should take into account reproductive preferences and the motivation behind the preferences of socio-demographic and ethnic subgroups. Sexual health cannot be understood solely from a western perspective and must be fully aware of women's belief systems to improve program effectiveness.

NGO family and reproductive health programs should target women in rural areas and community health associations should be created for women. NGO service providers and communities should work together to establish common objectives and gather resources for these health associations, keeping in mind that involvement of stakeholders improves accountability and sustainability.

Government and NGOs should support improvement in free (or low cost) medical health services and facilities.

8.5 Household Decision Making, Community Participation and Awareness of Legal Rights

The proportion of women participating in household decisions concerning educational spending, health-related spending and the use of self-earned income increased in both the experimental and the control group over the three-year period. However, only the experimental group experienced a gain in the proportion of women who were involved in decisions about the use of family planning. Both groups had very modest increases in the number of women who made the decision to take a stand against domestic violence.

The number of women in both the experimental and the control group who were participating in community activities increased over the period. However, women in the experimental group showed larger gains than the control group women. Women in both groups showed a decline in knowledge of legal rights, but it is important to note that legal awareness was not part of all NGO programs. Only Gregoria Apaza had a strong legal knowledge component in their program. *Knowledge of legal rights should be included in further training activities.*

Data suggest that increased participation in the labor market might have empowered women to make more household decisions related to spending and to increase their overall community participation. Women do make important household decisions in educational spending, health-related spending, birth-control methods, spending self-earned income, and denunciation of domestic violence. Over the study period, most of the decisions related to the five decision areas were made by women, either alone or with their husbands.

While a large proportion of women in the study were involved in household decisions about education and health spending, family-planning methods, and spending their own money, only a small percentage of women were willing to stand up against the domestic violence, despite its prevalent in Bolivia.

Even though most of the NGO programs included a decision making/empowerment component, the experimental group experienced a smaller increase in the proportion of women involved in finance-related decision making than the control group. On the other hand, women who participated in NGO programs were more likely to make decisions about the use of family-planning methods and were more likely to participate in community activities. Their gain in family-planning decision making was very encouraging, given that in Bolivia, family planning presents many challenges, particularly among indigenous populations. Poverty, low educational levels, cultural beliefs, and social disapproval contribute to the gap between desired fertility rate (2.7 births per woman) and actual fertility rate (4.2 births per woman) (Terborgh, et al., 1995; Instituto Nacional de Estadistica y Macro Internacional, 1998).

The influence of NGOs on women's participation in decisions related to reproductive health issues might have a very significant impact on Bolivia's socio-economic development over time. This study focuses on a sample of women participating in five programs.

Recommendations include: 1) support national campaigns against domestic violence; 2) create community-based organizations to report cases of domestic violence and plan strategies for follow up; and 3) promote of legal rights awareness through the media.

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APPENDIX 1: MAJOR CONTRIBUTORS TO THE GWE-PRA STUDY IN BOLIVIA

AID/Washington Office of Women in Development	Susie Clay Anne Dykstra Hilda Arellano
Dev Tech (review and comment)	Meghan Donahue Muzit Mesfun
USAID/Bolivia	Ileana Baca Judith Timyan Jorge Velasco
GWE-PRA Principal Investigator/Project Director	Shirley Burchfield
GWE-PRA Research Director	Haiyan Hua
GWE-PRA Technical Advisor	David Kahler
GWE-PRA Bolivia Research Coordinators	Tania Suxo Iturry
Education Development Center (EDC), Inc. Activity Director	Mary Ellen Duke
Instrument Design and Survey Tools	Haiyan Hua Shirley Burchfield Tania Suxo Iturry Mary Ellen Duke
Report Writing/Editing	Haiyan Hua (lead author draft reports) Tania Suxo Iturry Shirley Burchfield Claire Brown Theresa Kavanaugh David Kahler Valéria Rocha Conrad W. Snyder Cecilia Crespo Erin Graham Mary Ellen Duke Renato Serrano
Data Analysis	Claudia Stilman

	Prithi Gor Tania Suxo Iturry Sandra Clavero In consultation with Dr. Haiyan Hua
EDC/Bolivia Staff:	
General Coordinator of the Study in Bolivia	Tania Suxo Iturry
Materials Development	Cecilia Crespo Noemi de Carter Alvaro Cisneros
Logistics and Documents Translation	Rosario Monroy Traverso
Temporary Assistance:	
La Paz Regional Coordinator	Ericka Palenque (Years 1 and 2) Lilia Rojas (Year 3)
Cochabamba Regional Coordinator	Mabel Patón (Year 1) María Hilda Zurita (Year 2) Juan Carlos Gutierrez (Year 3)
Programmer	Fernando Mollinedo (Years 1, 2, and 3)
La Paz Supervisors	Javier Selaez (Years 1, 2, and 3) Martín Martinez (Year 1) Daniel Manzilla (Year 2) Claudia Tejada (Year 3)
Cochabamba Supervisors	María Luz Flores (Year 1) Elizabeth Delgadillo (Year 1) Nilza Rojas (Year 2 and 3) Antonieta Guzmán Herbas (Year 2) Williams Gutierrez (Year 3)
La Paz Interviewers	Edelmira Bernabé (Years 1, 2, and 3) Esther Portugal (Years 1, 2, and 3) Norma Romero (Years 1, 2, and 3) Shirley Veizaga (Years 1, 2, and 3)
	Lupe Flores (Years 1 and 2) Patricia Maldonado (Years 1 and 2) Lola Mamani (Years 1 and 2) Marcia Ordoñez (Years 1 and 2)

	Edma Yolanda Zenteno (Years 1 and 2)
	Roxana Alvarez (Year 1) Delfina Ilaya (Year 1) Justina Condori (Year 1) Petrona Mariscal (Year 2) Francisca Flores Marca (Year 2) María Estela Huanca Quisbert (Year 2) Martha Fernandez (Year 2) Daria Ericka Magne (Year 2) Roxana Rivera (Year 2) Alicia Condori (Year 3) Emiliana Macuchapi (Year 3) Ruth Quispe (Year 3) Iby Rojas (Year 3) Juana Tancara (Year 3) Lourdes Terrazas (Year 3)
Cochabamba Interviewers	Esther Cruz (Year 1, 2, and 3) Marlene Escóbar (Year 1, 2, and 3)
	Elba Berrios (Years 1 and 2) Beatriz Zambrana (Year 2, and 3) Edith Yolanda Burgos (Year 2, and 3) Rosaura Ledezma (Year 2, and 3)) Griselda Saldaña (Year 2, and 3)
	María Elena Aguilar (Year 1) Cleide Lister (Year 1) Norma Pardo (Year 1) Blanca Ardaya (Year 1) Gladys Aguayo (Year 1) Ana María Choque (Year 1) Verónica Vargas (Year 1) Miram Valencia (Year 2) Mabel Patricia Miranda (Year 2) Magdalena Ledezma (Year 2) Carmen Rosa Mamani (Year 3) Carmen Rosa León (Year 3)
Coding and Proofing	Claudia Tejada (Year 1, 2, and 3) Patricia Alarcón (Year 1)

	Ericka Daher (Year 1) Humberto Charcas (Year 1) Ximena Quiroga Flor (Year 2) María Eugenia Suarez (Year 2) Noemí Urrutia (Year 3) Martín Mallo (Year 3)
Data Entry	Juana Tancara (Year 1, 2, and 3) Gonzalo Montecinos (Year 1) Teresa Peña Quintanilla (Year 1) Simón Cuba (Year 2) Martín Mallo (Year 3)
Cartografía Actualización	Filiberto Mita (La Paz) David Camacho (Cochabamba)
Quechua Translator	Elizabeth Banus
Aymara Translator	Jorge Dorado
Rural Transportation La Paz	Ricardo Quelali (Year 1 and 2) Felipe Quispe (Year 2, and 3) Luis Falcón Castillo (Year 1) Juan José Paucara (Year 1) Angel Castillo (Year 2) Oscar Vera (Year 3)
Rural Transportation Cochabamba	Mario Gumucio (Year 1 and 2) Esteban López (Year 3)
Special thanks to:	Patricia Arancibia PLAN Internacional Altiplano Isabel Rueda FFH/CRECER Roberto Beltrán FFH/CRECER–Cochabamba
Centro de Promoción de la Mujer Gregoria Apaza	María Angel Sotelo
Pro Mujer	María López

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APPENDIX 2: TOTAL NUMBER CASES ASSOCIATED WITH PERCENTAGE CALCULATIONS ON SELECTED TABLES

Table A7-8: Mothers Who Visited Their Children's School and Discussed Their Performance with Teachers

	Experimental Group n			Control Group n		
	Year 1	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Visit Child's School						
Boys	281	285	329	87	82	96
Girls	292	289	319	74	78	84
Discuss Child's Performance						
Boys	276	283	327	87	81	96
Girls	289	293	314	70	78	84

Table A7-9: Mother's Formal Education Level by Participation in their Children's Educational Activities

Highest Education Level Attended	Help with Homework n			Visit School n			Read to Children n		
	Year 1	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Experimental Group									
No Education	107	67	58	107	67	58	74	36	27
Primary School	181	220	232	181	220	230	160	191	181
Secondary School	103	120	143	103	120	143	153	141	152
Higher Ed.	5	10	11	5	10	11	7	10	10
Control Group									
No Education	32	16	14	32	16	14	33	16	8
Primary Education	48	67	78	48	67	78	40	54	62
Secondary School	25	24	23	25	24	23	20	27	25
Higher Ed.	0	2	3	0	2	3	7	5	4

Table A7-10: Women Who Participated in Children's Educational Activities by Socio-Economic Quartile

	Help with Homework (n)			School Visit (n)			Read to Children (n)		
SES Level	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Experimental Group									
Lowest Level	71	79	165	71	79	164	84	74	149
Second Level	102	89	122	102	89	122	104	93	100
Third Level	89	108	67	89	108	67	95	106	57
Highest Level	134	146	90	134	146	89	111	107	64
Control Group									
Lowest Level	34	41	53	34	41	53	46	49	51
Second Level	27	24	32	27	24	32	25	25	25
Third Level	21	24	16	21	24	16	13	17	13
Highest Level	23	20	17	23	20	17	16	11	10

Table A7-11: Number of Women Who Would Seek Medical Help for Themselves

	Experimental (n)			Control (n)		
	Year 1	**Year 2**	**Year 3**	**Year 1**	**Year 2**	**Year 3**
Seek Medical Help (clinic, doctor, NGO)						
Flu with fever	390	381	421	115	99	108
Severe stomachache	420	401	464	120	108	119
Broken arm	648	617	650	193	187	196
Self -Treatment (drugstore, stay home)						
Flu with fever	321	336	293	106	125	115
Severe stomachache	292	311	249	100	113	105
Broken arm	51	84	58	26	28	19

Table A7-23: Women's Perceptions about Things they Should Do During Pregnancy

		Regular check-up w/ doctor (n)	Avoid carrying heavy items (n)	Eat more nutritious food (n)	Avoid alcohol (n)	Avoid smoking (n)
Control Group						
Rural	Year 1	87	92	92	88	96
	Year 2	90	93	93	94	88
	Year 3	95	91	95	95	92
Urban	Year 1	128	127	128	127	128
	Year 2	128	126	128	128	128
	Year 3	128	127	128	126	128
Experimental Group						
Rural[a]	Year 1	280	285	288	281	292
	Year 2	276	289	290	286	283
	Year 3	288	291	291	289	289
Urban[b]	Year 1	420	422	422	425	425
	Year 2	423	423	423	422	418
	Year 3	424	425	424	422	420
By NGO						
Gregoria Apaza	Year 1	180	178	179	180	180
	Year 2	179	180	179	180	175
	Year 3	180	180	179	179	179
Pro Mujer	Year 1	192	197	195	197	197
	Year 2	196	195	196	194	195
	Year 3	196	197	197	196	193
PLAN	Year 1	125	130	134	128	136
	Year 2	124	135	134	132	130
	Year 3	133	135	135	134	133
CRECER	Year 1	144	143	144	143	144
	Year 2	143	144	144	143	143
	Year 3	144	144	144	143	144
NGO Partnership						
PLAN/CRECER	Year 1	59	59	58	58	60
	Year 2	57	58	60	59	58
	Year 3	59	60	60	59	60

[a] Includes PLAN/CRECER and PLAN International participants, all of whom are in rural areas, and the CRECER participants who are in rural areas.

[b] Includes Gregoria Apaza and Pro Mujer participants, all of whom are in urban areas, and the CRECER participants who are in urban and semi-urban areas.

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Table A7.34: Community Participation by Group over the Three-year Period

	Experimental (n)			Control (n"		
	Year 1	Year 2	Year 3	Yea r 1	Yea r 2	Year 3
Belonged to any community organization	717	717	716	224	224	224
Voted for local organization's leader	243	328	414	47	25	61
Ever participated in community or group activities	717	717	716	224	224	224

Table A7-35: Women's Decision Making Capacity by Group over Three Years

	Experimental (n)			Control (n)		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Decisions about education spending	717	717	717	224	224	224
Decisions about health spending	717	717	717	224	224	224
Decisions about family planning	280	299	292	71	82	71
Decisions about use of the earned money	717	717	717	224	224	224
Decision against domestic violence	717	717	716	224	224	224

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